

Digitized by the Internet Archive
in 2017 with funding from
CLIR

<https://archive.org/details/fieldnotesv151900pear>

Pearson, O.P.

1955

Catalogue

#4037-4368

Peru, Bolivia
and Argentina

O. P. Pearson

1955

Pern, Bolivia, Argentina

catalog + journal

Pearson
1955

catalog

August 5

Maña, 2200 ft., Dept. of Lima Peru.

MUZ 120235 4037 *Lagidium*? Bones and scats found on slope growing to Tillandsia, see trap line account.

August 6

MUZ 120065 4038 ♂ *Phyllotis darwini limata*

pale yellowish under in stomach, testes 9 mm
258 x 144 x 26 x 27 SV large

1 mi. E. Santa Elena, 4000 ft., Dept. Lima,

120074 4039 ♀ " " *limata*

208 x 114 x 26 x 25 no emb.

MUZ 119993 4040 ♀ " *andersoni*

174 x 91 x 22 x 23 no emb.

4041 ♀ " *darwini limata*

243 x 132 x 26 x 27 4 emb.

4042 ♂ " " "

234 x 124 x 26 x 27 testes 10 mm

4043 ♂ " " "

244 x 134 x 26 x 27 testes 9 mm

4044 ♂ " " "

189 x 104 x 25 x 24 testes 2 mm

Station 5200 (Tornavaca)

1 mi. E. San Bartolome, 4800 ft., Dept. of Lima, Peru

August 7

4045 ♀ *juv. ad.*

269 x 140 x 32 x 22 *white large*
no emb.

1 mi. E San Bartolome, 4800 ft.

Aug. 8

4046 ♀ *Ph. darwini limata*

246 x 128 x 27 x 26 *lying dead on*
road at bottom
of cliff within 6 ft.
of 4047 & 4048

4047 ♂ " " *juv.*

140 x 66 x 21 x 17

DOR as above

[4048] ♀ " " "

138 x 64 x 21 x 16

DOR as above.
not saved.

1 mi. W Matucana, 6500 ft., Dept. of Lima

4049 ♂ *Ph. andersoni*

221 x 115 x 26 x 21 *on slope. Ears*
leafy, 17 mm across,
look bigger than 21. testes 8 mm.

4050 ♂ " "

200 x 105 x 26 x 22 *on slope. Ears 18 across*
testis 6 mm.

4051 ♂ " "

218 x 115 x 26 x 21 *testis 9 mm*

4052 ♂ *Orzomys*

236 x 116 x 30 x 20 *along wall, perianth grass*
islet, valley floor.
testis 4 mm

3 mi. E Matucana, 8200 ft., Dept. of Lima

Aug. 11

ovipositor in sore plus bumps.

4053 ♂ *Phyllotis andinum*

228 x 117 x 26 x 23 testis 9

4054 ♀ *Marmosa*

orange milk
189 x 98 x 15 x 21 no emb.

San Mateo, 9500 ft., Dept. of Lima, Peru

Aug. 11

4055 ♂ *Oryzomys*

202 x 115 x 23 x 15 testis 6

4056 ♂ *akodon*

134 x 58 x 19½ x 10

4057 ♂ *Phyllotis andinum*

225 x 115 x 26 x 23 testis 2 mm sitting

4058 ♀ " "

193 x 101 x 24½ x 21 no emb.

4059 ♀ " "

220 x 114 x 26 x 23 ear 18 across
vg adult but no emb.

4060 ♂ " "

206 x 109 x 25 x 22 testis 2 mm
ear 17 across

4061 ♂ " "

206 x 106 x 25 x 22 testis 4½, SV small
ear 17 across

4062 ♀ " "

188 x 96 x 24 x 19 no emb.

4 mi E Chosica, 3500 ft., Dept. of Lima Peru

Aug. 12

4063 ♀ *Phyllotis darwini lineatus* lactating, no emb., tail OK
265 x 148 x 26 x 25 ear 23 across

4064 ♂ " " " 238 x 126 x 26 x 26 " 24 " testis 10 mm
tail OK

4065 ♂ " " " 234 x 124 x 26 x 24 " 22 " testis 9 mm
tail OK

4066 ♂ " " " 240 x 132 x 26 x 26 " 24 " SV small high
tail OK testis 7

4067 ♂ " " " 236 x 129 x 25 x 26 " 23 " testis 11 mm
tail OK

Rio de Valley, 4400 ft., Dept. of Lima, Peru

4068 ♂ *Phyllotis darwini lineatus* tail OK
266 x 146 x 27 x 26 ear 23 across testis 12 mm
tail OK

4069 ♀ " " " 229 x 126 x 26 x 26 " 23 " 4 emb.
tail OK

4070 ♀ " " " 233 x 124 x 26 x 27 " 23 " 3 emb.

4071 ♂ " " " 234 x 126 x 25 x 25 " 20 " testis 9 mm
tail OK

4072 ♂ " " " 226 x 125 x 26 x 26 " 21 " SV small
tail OK testis 6 mm

Pearson
1955

- ♀ " $[217] \times [95] \times 25 \times 26$ ear 20 across
- ♂ " $[226] \times [117] \times 26 \times 26$ " 23 "
- ♀ " $224 \times 117 \times 25 \times 25$ " 22 "
- ♂ " $212 \times 112 \times 25 \times 24$ " 22 "

^{station 5200.}
1 mi. E San Bartolome, ~~4800~~ ft., Dept. of Lima, Peru

- 4073 ♀ ^{junior rat} *Oryzomys fentlesi* $214 \times 104 \times 27 \times 19$ no emb.
4074 ♀ " $195 \times 102 \times 26 \times 14$

4 mi. E. Chosica, 3500 ft., Dept. of Lima, Peru

- 4075 ♀ *Phyllotis darwini* *lividus* $[202] \times [84] \times 26 \times 27$ ^{lact., no emb.} ear 22 across
4076 ♀ " " " $260 \times 138 \times 26 \times -$ ^{tail OK.} - - Huge vaginal plug.
^{Villarista}
~~Barro Colorado~~, 12,200 ft. (between Rio Blanco & Casapalca), Dept. of Lima,

Aug. 13

- 4077 ♀ *Phyllotis andinum* $246 \times 128 \times 25 \times 23$ ^{no emb.} ear 17 across
4078 ♂ " " $239 \times 123 \times 26 \times 22$ Testis 10
4079 ♂ " " $212 \times 115 \times 26 \times 22$ ^{testis 5 mm} " 16 "
4080 ♀ " " $205 \times 109 \times 24 \times 21$ ^{no emb.} " 16 "
4081 ♀ " " $225 \times 123 \times 25 \times 21$ ^{no emb.} " 17 "
4082 ♀ " " $216 \times 119 \times 25 \frac{1}{2} \times 21$ ^{no emb.} " 17 "
4083 ♂ " " $219 \times 119 \times 26 \times 22$ ^{testis 3 mm} " 17 "
4084 ♀ " " $204 \times 107 \times 26 \times 22$ ^{no emb.} " 16 "
4085 ♀ *Hesperomys* $162 \times 72 \times 20 \times 19$ ^{no emb.}
4086 ♀ " $137 \times 61 \times 18 \times 17$
4087 ♀ " $145 \times 63 \times 19 \times 18$
4088 ♀ *Akodon* $165 \times 64 \times 18 \times 12$

D. P. PEARSON
1955

14,000 ft.
1 mi. E Casapalca, Dept of Lima, Peru

Aug. 14

4089	♂	<i>Hesperomys</i>	138 x 61 x 20 x 18	
4090	♂	"	117 x 39 x 19 x 18	
4091	♂	<i>Neotomys ekroni</i>	188 x 70 x 24 x 19	testes 9 mm loct., no emb.
4092	♀	<i>Phyllotis darwini postialis</i>	245 x 125 x 27 x 28	ear 21 across testes 10, SV large
4093	♂	" " "	230 x 115 x 26 x 25	" 19 "
4094	♂	" " "	228 x 110 x 29 x 25	" 18 " testes 10
4095	♂	" " "	228 x 111 x 27 x 24 x 19	" Test 10
4096	♀	" " "	226 x 116 x 27 x 25 x 20	" 2 emb.
—	♀	" "	238 x 112 x 27 x 26	" 21 " parony, no emb.

1 1/2 mi. W Casapalca, 13,200 ft., Dept of Lima, Peru

Aug. 15

4097	♂	<i>Akodon jelskii</i>	161 x 66 x 23 x 16	
4098	♀	<i>Phyllotis darwini postialis</i>	248 x 127 x 27 x 24	60 gms post-lact. ear 19 across
4099	♂	" " "	252 x 126 x 28 x 25	testes 11 mm 19 " 52 gms
4100	♀	" " "	240 x 124 x 27 x 26	parony post-lact. 45 gms
4101	♀	<i>Phyllotis</i> ^{postialis} andersoni	210 x 109 x 26 x 24	" 18 " no emb.
4102	♀	" ^{andersoni}	212 x 112 x 24 1/2 x 20	29 gms. no emb. but parony
4103	♂	" "	213 x 114 x 25 x 20	testes 7 mm, SV med. 33 gms.
4104	♀	" "	217 x 119 x 26 x 20	no emb., uterine 31 gms. prev.
4105	♂	" "	207 x 110 x 26 x 21	29 gms. Testes 4 mm.
—	♂	" "	208 x 109 x 25 x 20	

1 mi. W Casapalca, 13,300 ft.

4106	♂	<i>Phyllotis darwini lineatus</i>	216 x 114 x 27 x 26	" 20 " testes 9 mm
4107	♀	<i>Hesperomys</i>	146 x 68 x 19 x 16	

1 1/2 mi. W Casapalca, 13,200 ft. (cont.)

4108 ♀ *Phyllotis darwini postobis*

195 x 101 x 25 x 23 ear 18 across.
U.G. immature 22 gms.

Minacaca, 13,500 ft., Dept. of Pasco, Peru

Aug. 17

4109 ♂ *Hesperomys*

in mine mound. Testis 8, SV large
118 x 41 x 18 x 19 18 gms

4110 ♀ *Phyllotis pictus*

179 x 74 x 25 x 23 no emb.

4111 ♀ " "

174 x 71 x 24 x 23

4112 ♀ miner

27 gms. small follicles. skull short

10 mi. NE Cerro de Pasco, 13,000 ft., Dept. of Pasco, Peru

Aug. 18

same trap line as 4114

4113 ♀ *Metomys eburneus*

191 x 75 x 23 x 17 3 emb

4114 ♂ *Akodon jelskii*

179 x 67 x 23 x 18 testis 8 mm

4115 ♀ *Hesperomys*

126 x 56 x 18 1/2 x 17 no emb

4116 ♀ *Akodon*

163 x 67 x 20 x 12 no emb

4117 ♀ *Oryzomys*

193 x 114 x 21 1/2 x 15 no emb.

Cullway, 12,500 ft., ~~15~~ 15 mi. NE Canta, Dept. of Lima, Peru

Aug. 20

4118 ♂ *Hesperomys?*

147 x 69 x 19 1/2 x 19 testis 8 mm

4119 ♀ "

154 x 64 x 19 x 19 post-test.

Huáraz, 12,000 ft., Dept. of Lima Peru

Aug. 21

4120 ♂ *Phyllotis andinum*

215 x 113 x 26 x 23 ear 18 across.
testis 4 mm

4121 ♀ " "

232 x 121 x 26 x 23 " 17 "

Subur Huáraz, 11,500 ft., Dept. of Lima

4122 ♂ *Phyllotis andinum*

204 x 106 x 26 x 22 testis 5, SV small
ear 15 across

4123 ♂ ? *Oryz?*

210 x 112 x 23 1/2 x 14 Testis 4 mm

4124 ♀ *Hesperomys*

151 x 66 x 18 x 18 5 emb.

1955

3 mi. W Huaros, 11,300 ft., Dept. of Lima, PeruAug. 21, 1955

4125 ♂	<i>Phyllotis andinum</i>	220 x 116 x 25 x 22	testes 3 ear 18 across
4126 ♂	" "	217 x 114 x 25 x 22	testes 5 in ear 18 "
4127 ♀	" "	225 x 122 x 25 x 23	parous, no emb. " 18 "
4128 ♂	" "	212 x 107 x 26 x 22	testes 5 " 17 "
4129 ♂	" "	212 x 113 x 24 x 21	testes 3 " 18 "

1 mi. W Canta, 8800 ft Dept. of Lima, Peru
Aug. 22

4130 ♂	<i>Phyllotis andinum</i>	212 x 112 x 26 x 22	testes 9, SV large ear 16 across
4131 ♂	" "	222 x 110 x 26 x 22	testes 9, SV large " 17 "
4132 ♂	<i>Hesperomys</i>	144 x 61 x 18 x 18	
4133 ♂	<i>Marmosa elegans</i>	205 x 107 x 16 x 24	
4134 ♀	" "	184 x 92 x 15 x 22	no emb.

2 mi. E. Chocaz, 2000 ft., Chillón Valley, Dept. of LimaAug. 23

4135 Fotor dog dropping picked up in Tillandsia

4136 ♀ *Phyllotis amicus* [139] [48] x 22½ x 24 nullip., no emb. ear 19 across.
stomach with greenish brown vegetable matter1 mi. E. San Bartolomé, station, 5200 ft., Dept. of Lima, PeruAug. 24

4137 ♂	<i>Phyllotis darwini lineatus</i>	241 x 131 x 27 x 27	testes 8, SV small ear 22 across
4138 ♀	" " "	jun. [94] x [7] x 25 x 23	" 19 " no emb.
4139 ♂	<i>Phyllotis andinum</i>	200 x 106 x 25 x 20	" 16 " no emb.

1 mi. W Surco, 6000 ft., Dept. of Lima, Peru

4140 ♂	<i>Phyllotis darwini</i>	206 x 110 x 25 x 24	ear 20 across no emb.
4141 ♀	" <i>amicus</i>	212 x 114 x 23 x 24	" 19 " 4 emb.
4142 ♀	" "	204 x 105 x 22 x 22	" 18 " post-lact.
4143 ♀	" "	201 x 106 x 22 x 23	" 19 " 3 emb.

O. P. PEARSON
1955

- 4144 ♀ *Phyllotis* ^{auratus} ~~auratus~~ 204 × 110 × 23½ × 22 ear 18 ^{3 limbs} across
4145 ♀ " " 201 × 103 × 22 × 22 " 19 " 3 limbs
4146 ♂ ^{zúngaro} *Oryzomys* 179 × 92 × 24½ × 18 testis 4 mm

Naña, 2200 ft., Dept. of Lima, Peru

Aug. 26

- 4147 ♂ *Phyllotis darwini* *livatus* 255 × 139 × 27 × 27 ear 23 ^{testis 5 mm, SV small} across.

(2.5 mi. ± NW Puente Alcomachay)

Rio Mantaro, 8500 ft., Dept. of Huancaavelica, Peru

Aug 29

no emb. Placental scars present. Bones + viscera (pink)

- 4148 ♀ *Phyllotis* 247 × 128 × 27 × 25 ear 20 across
4149 ♀ *Melanomys*? 170 × 77 × 23 × 14 no limb.
4150 ♀ *Phyllotis* 189 × 95 × 25½ × 23 ear 18 across
4151 ♀ *Hesperomys* 162 × 80 × 19 × 18 test., no limb -

9500 ft

2 mi. S Ayacucho, Dept. of Huancaavelica, Peru

Aug. 30

- 4152 ♂ *Phyllotis* 248 × 135 × 29 × 24 ear 19 across ^{testis 4 mm, SV small}
4153 ♂ " 249 × 139 × 29 × 24 " 20 " ^{testis 5, SV small}
4154 ♀ " 229 × 127 × 28 × 24 " 18 " ^{no limb. OG large}

~~5 mi. S~~

10 mi. NE Abasco, 8000 ft., Dept. of Apurimac, Peru

Sept. 2

- 4155 ♂ *Hesperomys* 195 × 96 × 21 × 20
4156 ♂ " 163 × 79 × 18 × 17

Santa Rosa de Ayaviri, 12,800 ft., Dept. of Puno, Peru

Sept 3

- 4157 ♂ *Phyllotis* *osborni* 221 × 113 × 24 × 22 ^{testis 6 mm} SV med.
4158 ♂ " " 214 × 110 × 26 × 22 ^{testis 9} SV med.

O. P. REYNOLDS
1955

20 mi. S. La Paz, 13,000ft., La Paz, Bolivia
Sept. 8

- 4159 ♂ *Phyllotis darwini* testes 10, SV large 205 x 109 x 24 x 23 ear 19 across
4160 ♂ " " " 237 x 133 x 26 x 26 " 19 " SV large
4161 ♂ " " " 227 x 115 x 27 x 26 " 20 " SV large
4162 ♀ " " " 216 x 112 x 24 x 25 " 19 " no emb.
4163 ♂ *Phyllotis sublimis* (or *salweenensis*?) 162 x 58 x 21 x 24 testes 9 mm
4164 ♂ *Mus* [135] x [58] x 18 x 14 testes 5, SV small
4165 ♂ *Hesperomys chilensis* 120 x 38 x 17 x 17 testes 7, SV large

2 mi. E. Oruro, 12,500ft., Oruro, Bolivia
Sept. 9

- 4166 ♀ *Ctenomys* 260 x 70 x 40 x no emb. no vocal.

20 mi. NE Oruro, 14,000ft., Oruro, Bolivia
Sept. 10

- 4167 ♂ *Phyllotis sublimis* Killed for Ruelas
4168 ♀ " " " " " "

- 4169 ♀ " " 163 x 54 x 22 x 23 no emb.

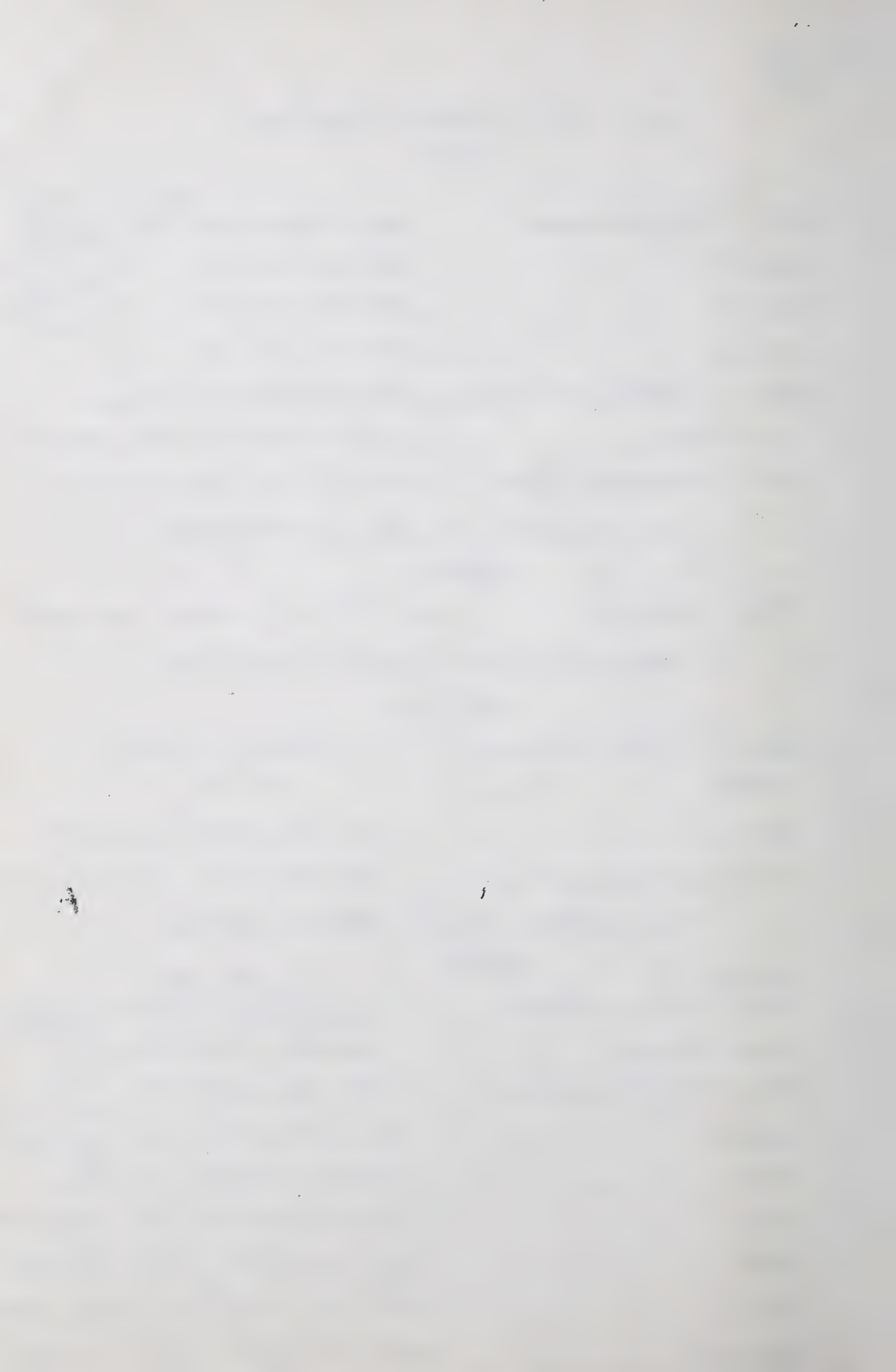
- 4170 ♀ *Hesperomys ducilla* 111 x 48 x 17 x 17 int. large, no emb.

15 mi. E. Tapacari, 9000ft., Cochabamba, Bolivia

Sept. 11

SKEL. ONLY

- 4171 ? *Phyllotis wolffsohni* inserted in trap 283 x 146 x 30 x 25 ear 20 across
4172 ♂ *Grainomys?* testes 8, SV small 64 gm with parasites fastened around lips.
4173 ♂ *Phyllotis wolffsohni* 273 x 140 x 31 x 25 ear 19 across
4174 ♀ " " 280 x 145 x 29 x 25 " 21 " testes 6 57g.
4175 ♂ " " 293 x 158 x 27 x 26 " 22 " 70 gm no emb. vagina closed
4176 ♂ " " 249 x 130 x 28 x 24 " 19 " 46g. testes 5 mm
4177 ♂ " " 270 x 123 x 28 x 23 " 18 " testes 4
4178 ♀ " " 244 x 127 x 26 x 24 " 20 " 52g. testes 4
4179 ♀ " " 240 x 122 x 27 x 23 " 20 " 43g. no emb.
4179 ♀ " " 225 x 114 x 26 x 23 " 20 " no emb.



4180 abdomen

187 x 83 x 23 x 18 33gms testes 3

5 mi. W Comarapa, 7500ft., Santa Cruz, Bolivia

Sept. 13

✓ 4181 ♂ *Phyllotia wolffsohni*

263 x 134 x 29 x 26 55gms testes 5 ear 20 across

✓ 4182 ♂ " "

236 x 121 x 28 x 25 "21" 50gms testes 3

✓ 4183 ♂ " "

239 x 123 x 27 x 25 "20" 52gms. testes 5

✓ 4184 ♂ " "

253 x 132 x 27 x 25 "21" 51g. testes 6

4185 ♂ *Microgongos*

218 x 137 x 23 x 15

4186 ♀ *abreana*

310 x 132 x 30 x 25 no eul.

✓ 4187 ♀ *Phyllotia wolffsohni*

255 x 125 x 27 x 24 no eul. in forest

4188 ♂ abdomen?

218 x 94 x 24 x 21

body eaten. Buffly collar. in forest

✓ (SKULL ONLY

4189 ♂ *Phyllotia wolffsohni*

245 x 120 x 27 x -

in forest anteat. no eul.

✓ SKULL ONLY

4190 " "

248 x 126 x 28 x -

in forest. Belly paler than 4181-4184 but with buffly collar.

20 mi. E Totoro, 9700ft., Cochabamba, Bolivia

Sept. 14

4191 ♀ *Oryzomys*?

180 x 71 x 21 x 15 no eul. long snout

4192 ♂ abdomen

166 x 75 x 21 x 15 testes 9 SV large

4193 ♂ *Oryzomys*

192 x 116 x 25 x 15 testes 4

4194 Toad

pond at edge of cloud forest.

15 mi. ESE Tiquia (Tiquia Chica of A.G.S.), 10,500ft., Cochabamba, Bolivia

Sept. 15

✓ 4195 ♂ *Phyllotia usilal*

230 x 124 x 25 x 20 39gms testes 4m rocks below road + brush. ear across 17

4196 ♀ " "

225 x 124 x 24 x 20 " " 17 31gms brush, lower line. no eul.

4197 ♂ " "

232 x 126 x 25 x 23 " " 20 33gms. brush, lower line. testes 4

4198 ♂ " "

222 x 118 x 25 x 22 " " 19 33gms grass, upper line. no eul.

4199 ♀ " "

[205] x [101] x 25 x 27 " " 17 31gms grass, upper line. no eul.

4200 ♀ " "

252 x 133 x 25 x 22 " " 18 46gms.

4201 ♀ *Phyllotis osilae*?

upper line, grass - no emb.
219 x 120 x 24 x 20 27 gms

4202 ♂ *Oryzomys*

upper line, grass
213 x 87 x 25 x 16 no emb.

4203 ♂ *Akodon*

upper line, grass Testis 5, SV mat
152 x 66 x 19 x 14

[4204] ♀ *Phyllotis osilae*?

upper line, grass. Preserved for Rinker
215 x 119 x 25 x 20 ear 15 across 26 gms

10 mi. NE Purata, 10,500 ft., Cochabamba, Bolivia

Sept. 16

4205 ♂ *Hesperomys*

trap site 1
144 x 64 x 19 x 15 testis 5

4206 ♂ *Phyllotis osilae*

trap site 1
230 x 124 x 26 x 20 ear 17 across testis 6 36 g.

4207 ♀ " "

trap site 2 testis 4
223 x 122 x 26 x 20 " 17 " 32 gms

4208 ♀ " "

trap site 2 no emb.
203 x 108 x 24 x 21 " 16 " 25 gms

4209 ♀ " "

trap site 2 no emb.
198 x 105 x 24 x 21 " 16 " 26 gms

4210 ♀ " *wolffsohni*

trap site 2 no emb.
275 x 143 x 27 x 26 " 22 " 65 gms

4211 ♂ " "

trap site 2 testis 4 mm
232 x 120 x 28 x 25 " 20 " 42 gms

SKULL ONLY

4212 ? " *osilae*

found dead, trap site 1.

8 mi. NE Purata, 10,000 ft., Cochabamba, Bolivia

Sept. 16

4213 ♀ *Brachomys*

trap site 3 2 emb. rt. horn
263 x 135 x 27 x 24 ear 19 across 51 gms.

4214 ♂ *Phyllotis wolffsohni*

trap site 3
224 x 114 x 27 x 24 " 20 " testis 4, SV tiny 49 gms.

4215 ♀ " "

trap site 3 no emb.
237 x 118 x 26 x 24 " 20 " 55 gms

4216 ♀ " "

trap site 4, no emb.
235 x 120 x 26 x 24 " 20 " 41 gms

40 mi. S Oruro, 12,000 ft., Oruro, Bolivia

Sept. 17

4217 ♂ *Marmosa*

190 x 107 x 14 x 21

4218 ♂ *Phyllotis darwini*

204 x 109 x 25 x 25 ear 18 across testis 3

4219 ♀ " "

199 x 104 x 24 x 24 " 20 " no emb.

4220 ♂ *Akodon boliviensis*

160 x 72 x 22 x 13 testis 4

5 mi. E. Uyuni, 13,000 ft., Potosi, Bolivia

Sept. 20

4221 ♂	<i>Phyllotis darwini</i>	208 x 108 x 24 x 24	39 gm	testis 9, SV large ear 19 mm
4222 ♂	" "	208 x 115 x 24 x 23	33 g.	testis 10 " 18 "
4223 ♂	" "	215 x 115 x 24 x 25	35 g	testis 9, SV large " 20 "
4224 ♂	" "	203 x 103 x 23 x 23	33 g	testis 8, SV med. " 19 "
4225 ♀	" "	200 x 104 x 23 x 25	23 g	no emb. " 21 "
4226 ♂	<i>Bolomys</i>	165 x 78 x 21 x 12	22 gm	testis 8 SV large
SKELE. ONLY 4227 ♂	"	153 x 69 x 21 x 14	26 gm.	

1 mi. E. Uyuni, 12,000 ft., Potosi, Bolivia

4228 ♂	<i>Echymodonta</i>	155 x 70 x 22 x 18	17 gm.	testis 6 mm SV med
4229 ♂	"	148 x 70 x 23 x 18	18 gm.	testis 6 SV med.
SKELE. ONLY 4230 ♀	"	135 x 67 x 23 x 17	14 gm.	With parasites little in fur, but specimen had been in pocket with various of above. Beetle sent for screen.

4 mi. E. Uyuni, 12,600 ft., Potosi Bolivia

Sept. 21

4231 ♂	<i>Phyllotis darwini</i>	222 x 117 x 26 x 25	ear 21 across 38 g	testis 10 mm
4232 ♂	" "	219 x 111 x 26 x 25	" 21 " 37 g	testis 9
4233 ♂	" "	189 x 98 x 24 x 23	" 19 " 23 g.	testis 6, SV med.
4234 ♀	" "	189 x 98 x 24 x 24	" 20 " 24 g	no emb., vagina large.
4235 ♂	" "	196 x 105 x 25 x 25	" 21 " 22 gm.	testis 4
4236 ♂	<i>Bolomys</i>	151 x 65 x 21 x 14	" 26 gm	testis 7, SV large.

30 mi. WNW Cotagaita, 11,000 ft., Potosi, Bolivia

Sept. 22, 1955

4237 ♀	<i>Braomys</i>	248 [123] x 31 x 24	ear 19 across.	no emb.
--------	----------------	---------------------	----------------	---------

Yumasa, 20 mi. SSE Tupiza, 10,500 ft., Potosi, Bolivia

Sept. 25

4238 ♀	<i>Octodon tomias</i>	323 x 150 x 37 x 28	long long vagina, 2 large emb. left horn + 2 CL left ov., no emb. rt.; no CL
4239 ♂	<i>Hesperomys</i>	152 x 78 x 20 x 17	

- 4230 ♀ *Gracomyz* 209 x [105] x 28 x 24 ^{no emb.} lar 19 ^{ovary}
4231 ♂ *Phyllotis darwini*? 232 x 130 x 27 x 24 ^{testis 3} " 17 "
4232 ♀ *Gracomyz* 248 x 133 x 29 x 24 ^{no emb.} " 18 " ^{plac.}

5 mi. N Villazon, 11,500 ft., Potosi, Bolivia

Sept. 26

- 4233 ♂ *Phyllotis* 195 x 108 x 24 x 23 ^{testis 5, SV small} lar 19 ^{ovary}
4234 ♀ " 189 x 94 x 24 x 23 ^{no emb.} " 20 " ^{testis 8 m}
4235 ♂ *Bolomys* 154 x 64 x 21 x 13
4236 ♂ *Eligmodontia* 155 x 75 x 23 x 19 ^{testis 8}
4237 ♂ *Hesperomys* 130 x 52 x 15 x 18 ^{testis 6, SV large}

8000
Tilcara, 7500 ft., Jujuy, Argentina

Sept. 29

- 4238 ♀ *Phyllotis caprimulgus* 245 x 123 x 27 x 25 ^{interm adult, no emb.} lar 19 ^{ovary}
4239 ♂ " " 251 x 133 x 28 x 24 ^{testis 10 mm, SV med-large} " 19 "
4240 ♂ " " 249 x 133 x 27 x 25 ^{testis 11 mm, SV large} " 19 "
4241 ♀ *Phyllotis darwini* 220 x

8500
1/2 mi. E Tilcara, 8000 ft., Jujuy, Argentina

- 4241 ♀ *Phyllotis darwini* 220 x 114 x 25 x 26 ^{no emb.} lar 19 ^{ovary}
4242 ♂ " " 209 x 114 x 25 x 25 ^{testis 10, SV med-large} " 21 " ^{testis 6, SV small}
4243 ♂ " " 225 x 117 x 26 x 26 ["] " 21 " ^{testis 5 m}
4244 ♂ " " 212 x 105 x 24 x 25 " 19 " ^{testis 6}
4245 ♀ " " 207 x 110 x 25 x 24 — ^{no emb.}
4246 ♀ " " 195 x 104 x 24 x 23 " 20 " ^{no emb.}
4247 ♂ *Akodon* 179 x 73 x 21 x 14 ^{testis 7, SV med.}
4248 ♀ *Phyllotis darwini* 201 x 108 x 24 x 23 ^{not preg} lar 19 ^{ovary}

Tilcara, 8500 ft., Jujuy, Argentina

Sept. 30, 1955

4249	♂	Phyllotia ^{andersoni} negalaria !!!	267 x 120 x 28 x 26	testis 11, SV med. - green matter in stomach but corn meal in mouth ear 21 across
4250	♂	Phyllotia ^{coppermine}	258 x 135 x 28 x 26	testis 11, SV med. "21"
4251	♀	" "	241 x 129 x 27 x 24	no emb. "19"
4252	♀	" "	214 x 116 x 27 x 24	no emb. "20"

Oct. 1

+ SKEL.	4253	♀	Phyllotia ^{negalaria}	260 x 118 x 28 x 24	no emb. ear 20 across
	4254	♂	Phyllotia ^{coppermine}	245 x 131 x 27 x 25	testis 7, SV small "20"
	4255	♀	" "	240 x 133 x 27 x 24	no emb. "20"
1. + SKEL.	4256	♀	" "	252 x 133 x 27 x 26	no emb. "22"

1 mi. W Lami, 5800 ft., Jujuy, Argentina

Oct. 3

4257	♂	Phyllotia ^{oslar}	231 x 129 x 27 x 21	testis 5 ear 18 across
4258	♂	" "	234 x 130 x 27 x 22	testis 4 "18"
4259	♂	" "	233 x 124 x 27 x 21	testis 5 "18"
4260	♀	" "	216 x 118 x 25 x 22	no emb. "18"
4261	♂	Muricea	242 x 133 x 16 x 23	testis large.
4262	♂	Oxymeria?	174 x 69 x 24 x 16	testis 6, SV small
4263	♂	Hesperomys	147 x 75 x 18 x 14	testis 6, SV large

25 mi. NE Villazon, 12,200 ft., Potosi, Bolivia

Oct 5

4264	♀	Frog.	idea, upper	limb more traps sky blue with black.
4265	♂	Phyllotia ^{dorami}	221 x 114 x 24 x 25 x 20	testis 5 ear 20 across
4266	♀	" "	209 x 110 x 25 x 24	no emb. "18"
4267	♀	" "	202 x 106 x 24 x 24	no emb. "19"
4268	♀	" "	218 x 112 x 25 x 24	no emb. "19"

1955

5 mi. S Tarija, 6700 ft., Tarija, Bolivia
Oct. 6

4269 ♂	<i>Gravys</i>	258 × 132 × 29 × 26	ear 20 across. ^{SV small} no emb.
4270 ♀	"	244 × 128 × 29 × 25	" " "
4271 ♀	"	244 × 128 × 28 × 24	" " " no emb.
4272 ♀	"	240 × 125 × 27 × 24	" 19 " no emb.
4273 ♂	"	297 × 152 × 31 × 25	" 20 " ^{testis 9} SV small
4274 ♂	"	261 × [127] × 28	— ^{testis 8} SV small
4275 ♀	"	270 × [132] × 31	—
4276 ♂	abdomen?	193 × 85 × 25 × 18	testis 7, SV med.
4277 ♂	"	177 × 78 × 24 × 18	testis 6 mm
4278 ♂	<i>Marmosa</i>	254 × 143 × 16 × 24	testis 10 mm

10 mi. NW Tarija, 8200 ft., Tarija, Bolivia
Oct. 7

4279 ♂	<i>Phyllotis</i> <i>auratus</i> ?	217 × [116] × 23	—
4280 ♂	<i>Oryzomys</i>	202 × 121 × 25 × 15	testis 4 mm
4281 ♀	abdomen	133 × 49 × 17 × 12	no emb.

25 mi. SSE Camatagui, 11,500 ft., Tarija, BoliviaOct. 8

4282 ♂	<i>Phyllotis</i> <i>neglectus</i> or <i>Andinomys</i>	272 × 126 × 28 × 25	80 gms ^{testis 12.5 mm}
4283 ♂	"	281 × 132 × 29 × 24	77 gms ^{testis 10, SV long}
4284 ♀	"	267 × 131 × 29 × 24	66 g. no emb.
4285 ♀	"	265 × 126 × 28 × 24	67 g. no emb.
4286 ♀	"	273 × 125 × 29 × 24	74 g. no emb.
4287 ♂	"	260 × 126 × 29 × 24	69 g.
4288 ♂	<i>Phyllotis</i> <i>darmian</i>	237 × 129 × 26 × 24	testis 2 mm
4289 ♂	"	225 × 125 × 25 × 24	testis 4 mm
4290 ♂	"	228 × 121 × 25 × 24	testis 4
4291 ♀	"	217 × 112 × 25 × 24	no emb.
4292 ♂	"	235 × 122 × 25 × 26	testis 4

4293	♂	<i>Phyllotis darwini</i>	214 × 116 × 25 × 24
4294	♂	" "	207 × 110 × 24 × 25
4295	♂	" "	207 × 108 × 24 × 24
4296	♂	<i>Hesperomys?</i>	151 × 61 × 21 × 13
4297	♀	<i>Marmosa</i>	195 × 106 × 14 × 22

20 mi SSE Comataquin, 8500 ft., Tarija

Oct. 9

4298	♀	<i>Phyllotis caprimus</i>	255 × 138 × 30 × 24 45 gm ^{no emb.}
4299	♂	"	264 × 146 × 26 × 25 42 gm ^{testis 4 mm}
4300	♂	"	247 × 136 × 25 × 23 31 gm ^{testis 5.5 small}
4301	♂	"	240 × 132 × 24 × 24 33 g. ^{testis long}
4302	♀	<i>Brownia</i>	276 × 150 × 28 × - ^{no emb.}
4303	♂	<i>Phyllotis caprimus</i>	235 × 132 × 25 × 24 30 gm. ^{testis 4 mm}
4304	♀		227 × 127 × 25 × 25 30 g ^{no emb.}
4305	♂		229 × 124 × 24½ × 24 31 gm ^{testis long}
4306	♀		214 × 120 × 24 × 23 26 g ^{no emb.}
4307	♂		239 × 136 × 26 × 24 39 gm ^{testis 4 mm}
4308	♂		241 × 125 × 25 × 23 36 gm ^{testis small}
4309	♂		222 × 124 × 25 × 23 26 gm ^{testis 4 mm}
4310	♂		239 × 138 × 25 × 24 31 g
4311	♀		224 × 129 × 25 × 23 28 g ^{no emb.}
4312	♀		225 × 128 × 25 × 25 28 g ^{no emb.}
SKULL ONLY			
4313	♂		265 × 151 × 26 × - ^{testis 8 mm SV small}
SKULL ONLY			
4314	♂		232 × 133 × 25 × 24
SKULL ONLY			
4315	♀		232 × 129 × 25 × -
SKULL ONLY			
4316	♀		238 × 131 × 25 × 25

1955

20 mi SSE Camatagui, 8500ft, Tarija, BoliviaOct. 10

4317 ♀ <i>Phyllotis caprimus</i>	222 × 125 × 25 × 23	29 gm	no emb
4318 ♀	234 × 125 × 24 × 24	31	no emb
4319 ♂	263 × 145 × 27 × 25	56 gm	testes 7, SV small
4320 ♂	231 × 125 × 25 × 24	35 g	testes 4 in
4321 ♀	204 × 113 × 24 × 23	29 gm	no emb.
4322 ♀	245 × 135 × 25 $\frac{1}{2}$ × 24	35	no emb.
4323 ♂	241 × 140 × 25 × 23	39 gm	testes 4, SV small
4324 ♂	236 × 131 × 25 × 25	36 gm	testes 4 in
SKULL ONLY 4325 ♂	220 × [107] × 25 × 24		
SKULL ONLY 4326 ♂	251 × 138 × 25 × 24		
SKULL ONLY 4327 ♂	228 × 125 × 25 × 23		

Camargo, 8500ft, Chuquisaca, BoliviaOct. 11

4328 ♀ <i>Phyllotis caprimus</i>	226 × 128 × 26 × 23	34 gm	no emb
4329 ♂	216 × [107] × 26 × 24	39 gm	testes 6
4330 ♂	268 × 146 × 26 × 24	49 gm	SV small

20 mi. S Potuasi, 12,300ft, Potuasi, BoliviaOct. 12

[4331] ♂ <i>Phyllotis darwini</i>	213 × 109 × 26 × 24	33 gm	Pickled for slides
[4332] ♂	208 × 107 × 25 × 24	30 gm	Pickled for slides
* 4333 ♂	223 × 122 × 27 × 25	33 gm	transported to Marietta Vogel
4334 ♂	225 × 119 × 26 × 24	36 gm	testes 4 in
4335 ♀	197 × 102 × 25 × 24	30 gm	no emb.
4336 ♀	193 × 98 × 24 × 24	27 gm	no emb.
4337 ♀	205 × 109 × 25 × 25	29 gm	no emb.
4338 ♂ <i>andersoni</i>	271 × 122 × 30 × 26	112 gm	testes 17, SV large
4339 ♂	292 × 133 × 28 × 25	102 gm	testes 14, SV large

4340	♂ Andinomyz	244 × 105 × 29 × 25	testes 13
4341	♀ Phyllotis darwini	221 × 112 × 25 × 25	no emb.
4342	♀ akodon	149 × 65 × 20 × 14	no emb.
—	♀ Andinomyz	270 × 128 × 29 × 27	
—	♀ "	281 × 128 × 29 × 25	
—	♂ "	271 × 128 × 28 × 26	
—	♀ Phyllotis darwini	216 × 114 × 25 × 24	
—	♀ " "	193 × [96] × 24 × 23	

~~Oct. 21~~

10 mi. N Carate, Dept. of Lima, Peru

Oct. 21

4343 *Phyllotis anicua* skull only. Pickups.
1 mi. W. Surco, 6000 ft., Dept. of Lima, Peru

Oct. 23

4344	♂ <i>Phyllotis anicua</i>	177 × 99 × 22 × 22	17 gm ^{testes 4, small}
4345	♂ " "	182 × 102 × 22 × 22	19 gm ^{testes 8, small}
4346	♀ " "	183 × 103 × 22 × 22	20 gm ^{2 emb. left}
4347	♀ " "	181 × 99 × 22 × 21	15 gm ^{no emb.}
4348	♂ " andina	225 × 126 × 26 × 23	33 gm ^{testes 6, small}
4349	♂ " "	228 × 123 × 26 × 22	31 gm ^{testes 8, small}
4350	♂ <i>Oryzomys</i> ^{Z.R.}	286 × 155 × 32 × 21	65 gm ^{testes 12, small}

1 mi. E. San Bartolomé, 5200 ft., Dept. of Lima, Peru

Oct. 23

4351	♂ <i>Oryzomys</i> ^{Z.R.}	302 × [120] × 33 × 24	160 gm ^{testes 16, small}
4352	♀ " "	265 × 131 × 29 × 21	73 gm ^{no emb.}

O. P. PEARSON
1955

Zarate

~~Zarate~~, 9000 ft; ~~10~~ 10 km. E, ^{Pueblo} San Bartolomé, Dept. of Lima, Peru
Oct. 27

4353 ♂ *Phyllotis andinum*

212 x 115 x 24 x 23 testis 3 mm

4354 ♀ abdomen

175 x 75 x 19 x 13 no end.

4355 ♂ "

141 x 65 x 19 x 14 testis 6, SV small

Oct. 28

4356 ♂ *Phyllotis andinum*

243 x 138 x 28 x 25 testis 4 mm

4357 ♂ " "

218 x 112 x 24 x 22 ^{testis 6 mm} SV small

4358 ♂ " "

woods { 210 x 109 x 26 x 23 testis 3 mm

4359 ♀ " "

205 x 111 x 24 x 21 ^{no end.}

4360 ♂ " "

(216 x 120 x 25 x 23 testis 4 mm

4361 ♂ " "

branch { 242 x 130 x 26 x 24 testis 4 mm

4362 ♀ " "

mesal place 230 x 122 x 26 x 22 no end.

4363 ♂ abdomen

- x 65 x 19 x 13 testis 3 mm

4364 ♂ *Phyllotis andinum* woods 198 x 110 x 24 x 23 testis 4 mm

Oct. 29

4365 ♂ *Meriz-oryzomys*

(brush on edge of pasture) testis 3 mm
201 x 122 x 24 x 15

4366 ♂ woodpecker (*Chrysomitris atricapilla atricapilla*)

shot by OP, prepared by M. Kopcke. Eye red.

4367 ♀ *Zaratornis*

length 20, ovary 7 x 4 mm, stomach with red
berries (probably *Psittacanthus*)

Oct. 30

4368 ♀ *Phyllotis*

forest camp
239 x 121 x 25 x 23 no end.

Pearson, O. F.

1955

Journal

Peru, Bolivia
and Argentina

1955
Pearson

O. P. PEARSON

Journal

Chosica, Dept. of Lima, Peru
Aug. 5 about noon set 48 Swedish mouse traps baited alternately with peanut butter and walnuts. Rat-sized droppings in 4 places and a few smaller droppings elsewhere. The locality is 1 mile east of Santa Eulalia and about 400 ft higher than the town. Traps on south-facing slopes. Hill very rocky (granite) with big talus rivers, very little soil. Cereus cactus, fuzzy cylinder cactus, joint cactus, barrel cactus, tomatoes in bloom and fruit, a white-flowered fig-like shrub (*Nyctropha*), a few blooming and dried composites, and dry grass. Saw lizards, doves, hummer, finch?, grasshoppers, wasp, butterfly, ~~large drops~~ Photo L1. Lots of seeds around.

After shopping in Chosica, set 20 more Swedish mouse traps on a gravelly stony hillside across highway from the Maña RR station. Many sheep droppings and numerous rat-sized droppings. Only vegetation is *Tillandsia* and a few crusty lichens. Found some very old bones that look like muscaru or chinchilla. The big droppings could be chinchilla.

Aug. 6 Sounded at Maña station drifting wet and enough drizzle to need windshield wipers. Trap line a couple of hundred feet above the road was in a grizzly black fog, as it was yesterday a.m. and when I jacklighted there last night. ~~At night~~ Didn't see any mice or muscaru while jacklighting. One *Per. darwini* in these traps near *Tillandsia*.

EARSON
1955



I-1 1 mi. E. Santa Eulalia, 4,000 ft., looking up valley. Aug. 5.
Cactus, tomato, white jatropha, small composites, dry grass. Lizards.
Trapline caught 5 Phyllotis darwini and 1 Ph. punicea.



I-5. 4 mi. E. Chosica, 3500 ft., south side of valley. Aug. 12.
Fluted cactus, occasional woody shrubs, few weeds; granite.
Traps caught 8 Phyllotis darwini.

P. PEARSON
1955



I-6. Rinosa Valley, 4400ft, south side of valley, Aug. 12.
Traps were set in distance among clumps of 6-foot-tall
6-fluted cactus. Dried weeds fairly thick, mostly a 1 to 2 foot
"goldenrod"; and dry grass about 8" tall. Caught 2 Mus and
12 Phyllotis^{d.} livatus.

P. PEARSON
1955



I-7 1 mi. E. San Bartolomé Station, 5200 ft., south side of valley. Aug. 12. muelle, shrubs, and dense weeds (dry), some head-high, many with stick-tight seeds. Some grass. Weeds were unusually rich following unusually heavy rains. Traps ran from foreground up ridge. Oryzomys ^{pantaleoni} abundant in foreground near muelle but nothing among weeds on the ridge.

P. PEARSON
1955



II-14 1 mi. E. San Bartolomé Station, 5200 ft., Aug. 24. cactus, dry grass and weeds, small shrubs. arrow shows location of photos I-7. Mother 4046 Phyllotis darwini and 2 young were found dead on road at bottom of this cliff. Traps set along ledges such as the one below caught 1 Phyllotis darwini,



II-15. Detail of above.
1 Ph. andrino, and 1 juv.

This is about 1 mi. W. Puente Carrion, shown in II-13.

ARSON
1955



II-13 Puente Carrion, 5800 ft., Aug. 23, 1955.
(foreground is about 5450 ft.)

P. PEARSON
1955



V-27. 1 mi. W. Surco, 6000ft, south side of valley, Oct. 23.
across highway from Dodge advertisement. arrow shows tank car on railroad.
Granite boulders. Schinus molle at bottom, century plant, fuzzy stick
cactus, a small yucca, weeds, and red-flowered jatropha.
Traps here on Aug. 24 caught 1 Oryzomys 5 Phyllotis annius, and
1 Ph. darwini.

many sprung-empty on lower part of line, probably by Oryzomys
On Oct. 24 1 Mus, 1 Oryzomys, 3 Phyllotis andersoni, and
6 Ph annius. again many sprung-empty.

P. PEARSON
1955



V-26. Legend as in photo V-27 on preceding page

P. PEARSON
1955



I-3 1 mi. W. Matucana, 6500 ft., south side of valley, Aug. 8.
Semi-terraced slope. Cactuses, weeds. Valley floor just below picture had
mollé and grass. Catch in photo 3 Phyllotis andinum; mus and
Oryzomys on valley floor. (Santa Sombra)



I-4 3 mi. E. Matucana, 8200 ft., south side of valley, Aug. 11.
Dry wild oats and about 6 species of woody bushes 2-6 ft. tall.
no mice caught. marmosa and Phyllotis andinum caught in
brushier place nearby.

P. PEARSON
1955



I-9. Villavieja, 12,200 ft. (between Rio Blanco + Casapalca), Aug. 13.
Stony slope with lupine and other woody shrubs 1-3 ft. tall. no cactus.

Traps here caught Hesperomys and 11 Phyllotis andinum.
Eucalyptus here. South-facing slope had bunchgrass + Baccharis, looked more altiplano.
abandon caught along cemetery with near grass, plus Hesperomys



I-10 3 mi. N Carhuarayo, 13,500 ft, looking west across
pampa of Lake Junin, Aug. 16. Mica mounds, Phone
pole about 8" diameter. Hesperomys and Puna Miners.

P. PEARSON
1955



2

$1\frac{1}{2}$ mi. W Casapalca, 13,200 ft., south side of valley, Aug. 15.

Rocky-grassy with much lupine; some ? Senecio? This is the upper limit of lupine. North side of valley here has no lupine.

Some cultivation on both sides of valley. Traps caught 7 ardium, 5 posticalis, 2 Heesperomys, and 1 akodon jelskii.

Rh ardim and dermini posticalis in adjacent traps.

See photo 3 for 100 ft. higher and north side of valley. much warmer than at the 14,000 ft. camp.

P. BEADSON

1955



#3 1 mi. W Casapalca, 13,300 ft., north side of valley, aug. 15
Pehr, Senecio, Baccharis etc.. Traps caught 1 Phyllotis
darwini postechis and 4 Heperomys. See fig. #2 for nearby
habitat with Ph. andinus.

P. PEARSON
1955



1 mi. E. Casapalca, 14,000 ft., Aug. 14. Bunch grass, fleshy Sesuvio, Pycnophyllum, etc. Traps caught Hesperomys —, Neotoma, and Phyllotis darwini.



South side of valley below Casapalca, about 13,000 ft. Mostly lupine with some bunchgrass. No traps here, but probably both Phyllotis darwini postalis and Ph. andinum.

P. PEARSON
1955

Bright sun when I got to the Santa Enlaba traps at 8 a.m. Probably no fog earlier. Smog over Lima. These traps with 6 Ph. darwini

Drove up the Carretera Central to San Bartolomé and skinned. Then put out about 60 Swedish mouse traps on a north facing slope 1 mi. E of San Bartolomé. Habitat mostly weedy. Thorny "^{molle}muña" trees down on the valley floor, plus weeds. Even the steep slopes quite weedy with only occasional cactus. Some grass. Some of the dry weeds head-high and many of them with stick-tight seeds. Some rock outcrops, but the weeds much too dense for what I consider good darwini habitat. Saw only one set of droppings: Dove, poor-will, hummer, flycatchers, ants

Aug 7

August 7

Fog at Chosica overnight, up at least to a mile above the Santa Enlaba turnoff but not much higher. Traps held one badly eaten zúñiga rat (Oryzomys ~~sp.~~). Most others either sprung or bait gone (ants). Will have to come back with bigger traps.

About 3 p.m. set \pm 55 Swedish mouse traps between Surco and Matucana, about one mile west of Matucana, I think, but I didn't go all the way into the town. The hills here are grassy-weedy with some cactus, quite a few century plants, thorn ^{tree} and thornless ^{tree} ~~some~~, some eucalyptus. The weeds not as thick as at San Bartolomé, but thinner than I think of for darwini.

1098
125
1223

1955

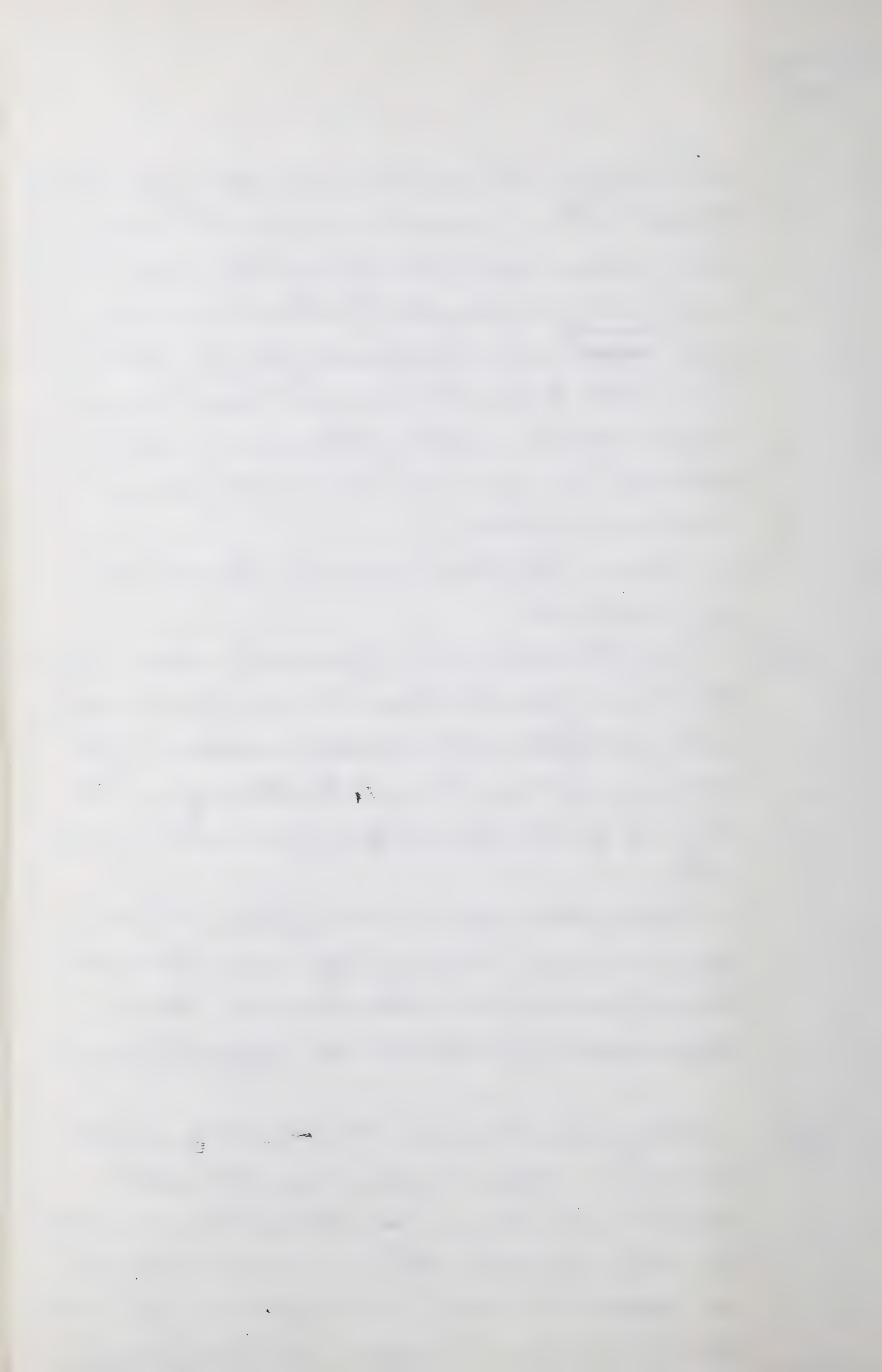
put my traps on the north-facing slope after crossing the RR trestle. Traps are in somewhat better terrain than most of surrounding hills, semi-terrace with lots of big clumps of cactus (big clumps of a big ~~cactus~~^{aster-flowered} and a big species of the fuzzy cactus). Region looks OK for cactus wrens but didn't see any. a dull woodpecker in the big cactus, also a small ~~swamp~~ poorwill, hummers, flycatchers. No lizards seen here or at San Bartolomé.

Evening started out clear at Chosica, looks foggy to the west.

aug 8 Foggy at 5 am. 8 to a few miles above Chosica. At 3 mi. E of San Bartolomé at 5:30 am found a dead lactating ♀ Phyllotis on the road and 2 immatures in the ditch a few feet away. It was at the bottom of a steep cliff. Tip of her tail skin stripped off, no visible means of death.

Treps on cactus slope had 3 Phyllotis, not sure darwini or andini. Half dozen traps along stone wall at edge of perennial grass pasture + there were held one house mouse (not seen) and one juvénal rat (Oryzomys).

aug 10 Wednesday. Returned to Lima Monday + Tuesday for battle with aduan. Equipment got in OK (for \$25) except ammunition, which they counted bullet by bullet to 1223 and then withheld for permit. Got the run around on permits, so abandoned the ammo (unless Koepke can get it out). Slept at Chosica. Foggy but cleared early.



P. PEARSON
1955

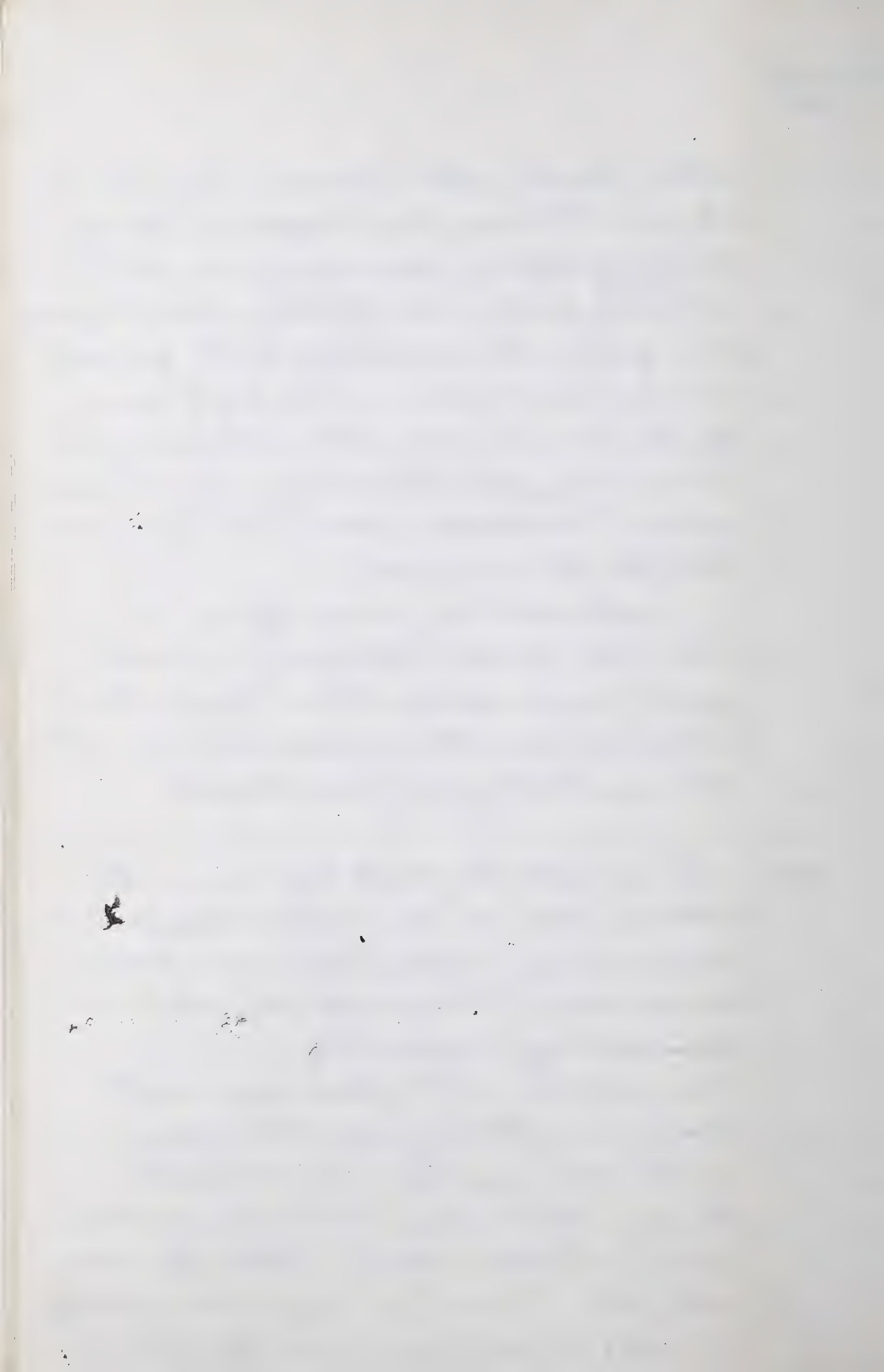
a little *Tillandsia* still at Chosica. Then drove to 3 mi. E Matucana, 8200, to recheck and set traps. North facing slopes of narrow gorges are wild oats and ^{scattered} woody bushes 2 to 6 feet tall, at least 6 species. S-facing slopes look more altoplano with few bushes and some bunch grass. Set a bag of museum specials (corn meal) among oats - bush plus some in some vine-covered stone ruins. First llamas packing at ^{Mina Viso} ~~Mina Viso~~ (same as ^{Tambo Viso} ~~Ariso~~ spring) about 8500 feet. Not much cactus.

Another short bag of museum specials at San Mateo, 9500 ft. Rather bushy, not unlike register terrain in southern Peru. Bushier than the other line 1 mi. E Matucana and with fewer wild oats (more heavily grazed), [wood-birding camp]

Aug. 11 The lower part of the 8200 ft. trap line in oats, scattered low shrubs, and rocks caught 1 Marmosa and 1 lumpy-eared darwini-arduin (Ph. from 1 mi. W Matucana had lumpy ears too). The longer upper part of the line in oats, low weeds, "sage", caught nothing.

The 9500 ft. line in bushy places caught caught 1 Akodon, 1 long-tailed Oryzomys, 7 Ph. arduin

Skinned til noon then went downhill to set traps. About a dozen at the Zuniya rat place (1 mi. E San Bartolomé, 4800 ft), 5 of them with mouse meat bait. Then set a bag of Museum specials (corn meal) at 4400 ft near a mine? right by the road.



P. PEARSON
1955

The vegetation is 6-foot tall fluted pipe cactus (6 flutes) every 100 feet or so, dried weeds fairly thick, mostly a 1 to 2 foot "goldenrod"; and dried grass about 8" tall. This cover is almost as thick as a poor wheat field, ^{but} not as tall or weedy as 1 mi. E San Bartolomé and without as many stubbers. Stony ground

also set a short bag of traps among the same kind of fluted cactus at 3500 ft 3 mi East of Chosica, but here among large granite boulders and cliffs, with few weeds, occasional woody shrubs. This seemed to be the most practical place to look for topotypes of hirsutus.

Fog came in at Chosica about 8 1/2 m.

Aug 12 Foggy at 6 a.m. Traps at 4 mi. E Chosica, 3500 ft; held 8 hirsutus, all with dirty grey bellies, many with truncated tails. Traps at 4400 ft among "golden ^{rod}" and big cactus held 2 house mice and 12 hirsutus. Traps at 1 mi E San Bartolomé had 2 immature Zenaidura macroura and one badly eaten? Oryzomys? Many springs empty as before.

after skimming down up higher. Maximum brush seems to be about at San Mateo. Camped at a village a couple of miles NE of the town of Rio Blanco, elevation about 12,200 ft. This has bunch-grass, (lichen?) and Baccharis, looking somewhat like althaus, ~~for~~ also eucalyptus and other trees, and some slopes with brush. Set one bag of traps on a stony slope among rather abundant lupine bushes (1-3 ft. tall)



and other bushes about same size. No coctus.
also about 20 traps along stone walls in
grazed places. The lupine sometimes has woody stems
an inch thick.

Aug. 13 Traps lines had 4 akodon (all along cemetery wall near
grass), 7 Hesperomys (some at cemetery wall + some in lupine)
and 12 andium (1 along cemetery, rest in lupine, especially
near talus or other rocky holes.

a passing gentleman tells me this ~~place~~^{location} is Pumasancha,
an old Spanish smelter; about a mile up the road is a
Cerro de Pasco mine Villavista, and 200 yards downstream
is a pueblo, Chicla.

After skinning drove further up the hill. Lupine
stops fairly abruptly at about 13,000 ft, then bunch grass
stopped at 1 mi. E Casapalca, 14,000 ft, and set 2 bags of
traps among bunch grass on gravelly stony slopes,
some big rocks. Looks like darwini, chinchilla country.
lots of large fibrous green droppings. Many kinds of
altitudinal plants, but in small numbers: Distichia,
fleshy Senecio, thorny bush (Senecio or Margyriarbus), and
Pycnophyllum. A few patches of snow about 200 ft. higher

Aug. 14 Sunday. Night clear, about -3°C , fringe of ice on stream.
Traps caught 1 Neotomys, 3 Hesperomys, and 7 Ph. darwini

vestioides, the latter big, grey, hairy-tailed, not looking like andium.

After skinning drove down to $1\frac{1}{2}$ mi. W of Casapalca, ^{13,200 ft} and
set a short bag of traps on steep north-facing slope, rocky
grassy with lots of lupine. This is the uppermost lupine.

P. PEARSON
1955

The south facing slope here is all bunch grass, no lupine. Among the lupine are some shrubby, dissected leafed yellow-flowered ? Senecio?. Looks more like Andrium terreum than darwini. Much warmer here than at the 14,000 ft. camp. Cultivation on both N and S slopes; very steep.

Also put traps at 1 mi. W Casapalca, 13,300 ft. on a south-facing slope growing to ichu, the dissected leaf yellow-flowered ? Senecio, and lesser grasses & forbs. The upper parts of the line had some Baccharis (a couple of 5-foot-high bushes, fleshy senecio, and a woody thorny shrub with red Indian paint brush flowers. I think same as above Tarata [Chiquisaca or Chiquiraja, or something like that. Enough ichu so that osid could live here.

The upper of these two trap lines is where a mine aqueduct carrying sludge crosses the valley by suspension bridge, and the lower line is just below where the sludge is dumped in a side canyon.

Aug. 15 Night clear, ice at 13,300 ft.

The upper trapline (1 mi. W Casapalca, 13,300 ft., ichu) caught only 4 Hesperomys and 1 Ph darwini postrealis. The lower trapline (1½ mi. W Casapalca, 13,200 ft., 13,200 ft., lupine) caught 7 Andrium, 5 postrealis, 2 Hesperomys, and 1 akodon jelskii. Andrium and postrealis were in adjacent traps, but in general the postrealis more open, the Andrium more bushy.

Drove over the pass to Oraya, then north toward Cero de Pasco. The pass, about 16,000 ft., is mostly bare



cinder with scattered bunchgrass; about like the
Cacochaca-Laico pass. Nowhere is there tola, as
in southern Peru. From Oroya north is lush
grassland, bunch and otherwise, much like the Acenda
Paimurani. No tola, brush, or anything larger than
the grass.

Road unpaved and rough all day except a tarred
stretch from Oroya to the Tarma turnoff.

Set about 20 traps along stone wall in grass.

Aug. 16 Night clear + cold, heavy frost. Water bucket in car
froze, mice wrapped in newspaper in car froze solid.
Traps caught 1 Hesperomys and 5 Ph. pictus.

I think I have found some minera mounds for
Dr. Scheffer. at the north end of Lake Junin, 13,500 ft., about
2 miles N of Carhuarayo. They are on a pampa sloping
appreciably westward toward the lake and are spaced 6 to 12
yards apart, none more than 2 feet high, mostly
about 1 foot. Vegetation is low grass and forbs, not
unlike the Loa Loa Loa pampa, with no vegetation
higher than 3 inches. Ground is very stony with rocks
up to 8" diam. Road cut reveals a fine soil with rocks
like conglomerate for at least first 2 feet down.
This area of mounds covers between 1 and 4 square miles,
houses around it but not in it. It is used for
grazing, and over parts of it parallel stripes of turf have
been removed for fuel, but I do not think the mounds
are man-made. I walked through the area and saw

no guinea pigs or tree-toads, nor their droppings. A few burrows of fairly large bore were present, all opening on the mounds, and one of these had fresh mouse droppings. Passed a similar but less impressive area somewhere south of Carhuamayo as a habitat for Ph. darwini (furthest north), Carhuamayo looks unpromising, but there are some rocky hilltops east of the town. In general the terrain is similar to the flat "hut" country west of Tarma.

About 4 miles \pm N of Carhuamayo ^{= Minacaca} on a flat pampa is another set of mina mounds larger and more distinct than the others. About 1 in 20 of these has a hard-size burrow in the side, many showing fresh digging. There are a few burrows in between mounds, but not many. However, there are similar burrows up on the hillside where there are no mina mounds. Two burrows showing fresh digging also had feathers and a woolly bird's nest lying on the ground at the opening; probably Coropatus digging out kuva miners.

Put out about 15 museum specials and 6 jump traps in burrows in mina mounds. Also about 25 museum specials along a wall upon the hillside - grass and small Churigua bushes (about 1-2 feet tall, thorny, red blossoms).

Jacklighting among the mina mounds showed nothing.

Aug. 17 About $\frac{1}{2}$ inch of snow overnight. No tracks in and out of mina burrows before 6 a.m. except 1 mouse. Traps ~~in~~ in burrows had 1 Hesperomys. Another set of mouse tracks that

I followed about 50 yards ended under a 10-inch stone, not on a mina mound, and there was a Hesperomys in a grass nest. He was quite tame. Traps along wall caught 3 Ph. pictus and 1 Hesperomys.

After about 6 a.m. the miner birds started popping in and out of the mina burrows, as well as the burrows up on the hillside. I am convinced that they are the principal occupants of the mina burrows.

A schoolmaster by passing said the mina mounds were the result of growth of a certain plant with edible seeds that the Indians used to use, but that the plant has been gone about 300 years as a result of grazing.

Several other sets of mina mounds appear between Miracaca and Cerro de Pasco, with perhaps the biggest of all at the Santa turnoff. Whenever there were mina mounds, the road cut showed an upper layer about 10 inches deep of stony soil, underlain by a layer of almost pure stones, most of them under 5 inches diameter.

Took the eastern road from Cerro de Pasco down toward Huariaca. The road goes down a steep canyon with many ruins of old Spanish mining activities. Went down to about 12,500 ft, where a small boy said it was about 6 km. further to Huariaca. ^[really about 26] The steep canyon sides become rather lush bunch grass, then, without a brushy zone, Quina trees appear. Quina (or something similar) and grass. Between 13,000 and 12,500 appear also weedy plants and a walnut-looking

tree around houses. Some cultivation at 13,000 ft., and at 12,500 beginning to ~~be quite~~ ^{the milpa mine} be quite farmish. Stopped at a side road to ^{the milpa mine} mine at 13,000 ft in a Huarque-like gorge. Floor is good green grassy turf, sides dense bunch grass. A few small patches and traces of brush. at 12,500 it was certainly too temperate for postcalis, and here may not be bushy enough for ardium.

Put about 15 traps in ~~the~~ a weedy-bush patch near the stream, about half a bag under boulders etc. on dense bunchgrass hillside, and another half bag up a steep narrow chute growing to grass + sphagnum. This locality shall be known as 10 mi. NE Cerro de Pasco.

Aug. 18 Traps held 10 Abodon, 1 long-tailed Oryzomys, 2 Neotomys, 1 Abodon jelskii, and 1 Hesperomys. No Phyllotis! While picking up the traps I realized that there was no bare ground - hence no Phyllotis.

Drove down the canyon to below Huarica where the other Cerro de Pasco road comes in. at about 12,000 ft there are many kinds of trees and bushes, a few orchid plants seen, and vegetable gardens with cabbages, lettuce, onions, plus geraniums and roses. Although some bushy areas, considerable grass cover. By Huarica, however, things are drier again, with century plants on the walls, and open brush. Especially between Huarica and the other road (10,500 ft. ±) there are bushy ~~and~~ hillside with open stony ground in between - looks good for

$$\begin{array}{r}
 4354 \\
 \times 32 \\
 \hline
 8708 \\
 13066 \\
 \hline
 140368
 \end{array}$$

arduin. In this canyon, however, (dis H valley),
arduin and darwin must be well separated by a moist
grassy zone between about 12,000 and 13,500 ft.

Camp back up the canyon of the Rio Tingo. This
one is wider, more grazed, looking drier, but still with
a grassy zone to separate darwin and arduin. The
problem is, why doesn't arduin go further south
at about the 11,000 ft level (or does it?). Hvarica looks
just like Alarcay, Andahuaylas, etc.. Darwin surely goes
further north along the cordillera west of Cerro.
Sagebrush snow-capped range there.

They are planting and cultivating eucalyptus in
the region of Hvarica. Much is being cut for mine
timbers. The queñua trees follow along the
stream banks rather closely. The highest ones in
the Rio Tingo valley were 13,000 ft.

altitude check: hills S of Cerro - 14,500 ft.

After skimming down across paspa and through
needle rocks to H valley. Took a wrong turn here and
went up a mine road to over 15,400 ft, then had to
come back to H valley and up the other road. Overtaken
by darkness at 15,000 ft, so pulled off onto grass bar
fork. The bar fork + grass paspa that they graze alpacas
on in southern Peru they dig for fuel here. They
cut slabs about 1 ft x 2 ft x 3 inches, like sod. at this
camping place above H valley the slabs are mostly
yareta with a little Distichia and grass mixed in. A
partly dried slab 10 x 20 x 3 inches felt quite light and

weighed 4 lbs. There are a few pillows of yareta here, but mostly sheets of it perhaps 50 ft. square covering a whole slope. One such area had had some turfs removed and was growing back mostly to yareta.

Aug. 19 Camping place by daylight (above Hualay, 15,000 ft.) turns out to be a bowl with rocky cliff headwall and nice little stream coming out of Distichia. Also dwarf grass and yareta. No bunch grass. Saw one microtus in the cliffs (my first one this trip), a pair of phalaropes (unusually high for them), and two caracaras spent the night on a rock ledge. Skunk can freeze in car but not water can. The yareta feels and sounds hollow as you walk across it early in the morning.

The road from Hualay to La Viuda ^{Pass} goes for several hours across dwarf grass + yareta country above 14,000 ft. Practically no bunch grass such as ichu. Comes at 15,000. Only at the highest places are there open ground - bunch grass like Triantha country. Most all the way looked like dandy Viña country, but saw none. Thiaca, flamingo, coot, terns, miners black + white plovers; quite altiplanish. On the west side after the summit bunch grass appeared. Then ~~came~~ a zone where a fleshy Sesuvium was quite common (14-15,000), then a zone about 14,000 where there was quite a bit of tola. First lupine appeared at 13,400.

Stopped at the eastern outskirts of what I think will be

no, Cullway
~~San Buenaventura~~. Steep hill-sides, narrow valley,
many stone walls, hillside crumbling terraces and
rock outcrops, the walls with low bushes of many
sorts including a couple of scraggly lupines. Looks like
andium habitat, but hope to get magister. One bat
flying at dusk. a few tree joint cactus; much grazing
by cows, burrows. Bushes include Baccharis, serophulari-
(calceolaria) aceae, a dissected-leaf Senecio, nettles. Put out one bag
of traps just before dark. Eucalyptus here in the town.

Aug 20. Sat. Traps produced only 2 mice, longish-tailed big Hesperomys.
Big hummer (Patagonia?) seen and another smaller black hummer
at the creek of dawn. Large coarse stick nest in one of the tree
joint cactuses may be cactus wren, but have neither seen
nor heard any. Colder south-facing slope just below
here has good rich lupine. Local yodel (town Cullway) says
altitude is 11,900 ft. About 2 miles below the town the
roadside and streamside has considerable thorn bushes with
lavender flowers, about 6 ft. tall

Took another wrong turn and ^{dead} ended at Huaros, but near
there encountered some nice stone wall - bush habitat
reminiscent of magister habitat above Tarata. 12,000 ft.

Lush lupine, calceolaria, and other bushes, many with showy
flowers and hummingbirds. Set half a bag of traps at noon.
Took a couple of hours because of small boys, people
working in the fields, etc. Then drove down the Canta road
about 15 kilometers and set a half bag among huge boulders
& bushes (Baccharis & others) and joint cactus. Then drove
up to the river below Huaros and set among stones



II-9 Hváros, 12,000ft. - Aug. 21. Lush lupine, calceolaria, and other
bushes. Trochocorys 7 Hesperomys and 2 Phyllotis andinum



II-10 Below Hváros, 11,500ft. - Aug. 21. Ph. andinum, Hesperomys

P. PEARSON
1955



II-11 3 mi. W. H. város, 11,300ft[±], avg. 20. Huge boulders,
bushes (Baccharis and others), and joint cactus. Trophs caught
1 Akodon, 1 Microoryzomys, and 2 Phyllotis andinum

and brush in two places. This makes 4 trap lines, some of them in subsections, essentially all among rocks & bushes. Highest vegetation is the tree joint cactus (up to 10 ft.), but some of the other bushes reach almost that high when supported by one of these cactuses. Saw no droppings while setting. Was most frustrating trying to set and fearing that was being watched.

Everyone says there are trout in the river, but especially in the lakes higher up. Tried 4 places along the river with a spinner, but no bites.

Aug 21 Sunday. Catch at Hvaros, 12,000 ft.: ? Hesperomys and 2 Phyllotis andinum?. At Baber Hvaros, 11,500: 4 Hesperomys, 1 Oryzomys (micro), 1 Phyllotis andinum, and 2 Oryzomys???. At 3 mi. W Hvaros, 11,300 ft.: 1 akodon, 1 Oryzomys (micro), and 7 Ph andinum. altitude check at 5 p.m.: Santa red 9800, double 9200.

Ice from aequia spray at Hvaros.

REVIEW OF SPECIMENS: In Rinco Valley ^{darwini} Changlinatus from Nain, 2000 ft. to 3 mi. E San Bartolomé, ⁵²⁰⁰ ~~4800~~ ft. (P.O.R.). No sign of intergradation ~~to~~ I have andinum from 1 mi. W Matucana, 6500 ft., up to 1 1/2 mi. W Casapalea 13,200 ft. where it is sympatric with d. posticalis. This is the lowest posticalis. Must have more between ⁵²⁰⁰ ~~4800~~ ft. and 6500 ft. to bring linatus and andinum together. In Santa Valley, have andinum so far from 12,000, 11,500, and 11,300.

Drove ^{to} about a mile west of Santa and parked in a Vin the road. Set a short boy of traps along various stone walls lined with weeds and brush. a few century plants. No cactus.



1955

Canta has corn + llamas and the tall beans.

1 mi. W Canta, ft; Dept. of Lima, Peru

Aug. 22 Traps caught 2 Marmosa, ~~2~~ Hesperomys, ~~and~~ 2 big old male Ph. andinum, ^{and 1 juv.} Parakeets here. [Later saw 2 large flocks of parrots. The original ones may have been parrots, but probably parakeets.]

Drove down the Chillón Valley. Much like Chivac. There are some big willows about 2 ft or more in diam. here that I don't remember in Chivac. Also, it is my impression that as one comes down the Chillón the zones are higher. Vegetation at 4000 ft. in the Chivac is at 5000 in the Chillón.

During a traffic tie-up (bad on collision on a curve) at 7000 ft., I tried fishing, a 10 inch rainbow trout on first cast; two other strikes. Stopped in the Tillandsia zone. Just before dark put out almost 2 bags of museum specials among the rocks + Tillandsia about 200 ft. above the road. Found only one set of fresh viscacha? droppings and put a steel trap there, but no good burrow. Some Tillandsia of both species in bloom. Of the smaller species, some plants that look like they have been kicked off the path have a fresh-looking flowering stalk with blooms. Saw a condor only 50 ft. above the ground at 5:45 looking west. Also a black beetle with long proboscis, a spider, and several "clothes" moths emerging from the Tillandsia at dusk. Fog bank gathered downstream at 6 and in ~~the~~ some side valleys, but hasn't hit here yet (7:45). Found

PEARSON
1955

a fox or dog dropping containing mouse paw, well up on hill.

Went jacklighting among Tillandsia at 8:30 but saw nothing except one poorwill.

aug. 23

Still no fog in a.m. although whole valley is misty clammy. Fog bank melts down the valley. Trap line of almost 2 bags of carefully placed traps produced only one mouse, a ~~young *Thomomys*~~ ^{or *Onychomys*} I think. No birds seen while running traps at 7 a.m., no viscachas.

There are widely scattered fragments of human? bone and pottery on the slope, and a few obviously excavated graves. One east-facing slope beside Tillandsia had lots of small tufts of branched epelavir bibern. This locality to be 2 mi. E Chocar, 2000 ft., Chillon Valley, Dept. of Lima.

For future reference there ~~is~~ is good Tillandsia house at km 32 on Santa Road. Right by road, off-the-road camping place, 3 or 4 species of Tillandsia, many small shells, but saw no viscacha droppings.

after passing through Lima drove up to 1 mi. W Surco, 6000 ft. (Dodge billboard) and set traps in a slope of huge granite chunks blasted out of the railroad above. Vegetation includes the valley tree, ^(Schwarz mallee) Century plant, fuzzy stick cactus, a small yucca, ~~and~~ weeds, and the red-flowered leafless "fig". Then drove down to 1 mi. E. San Bartolomé, 5200 ft., and set traps on the steep cliff above the place where found the Phyllotis and young DOR. It is a few hundred yards east of the Junger rat trap line in the weeds. It is also about 1 mi. W of the famous Puente Carrion.

So these two trap lines straddle Puente Carrion!

Then returned to Mañá for the night and set about half a bag of traps at the ~~same~~ ^{same} place ~~above~~ across the road and above the RR station. Unlike last night, most of this Tillandsia is the biggest kind - but sparser. However, up near the top of the hill I found what looks like 2 visacha burrows, and set steel traps there as well as 1 other steel trap in a not-so-good place. Quite a few droppings around. These traps set at dusk, so better not run them too early so that a diurnal beast would have time to get caught in the morning. Fog lower down the valley, but none at Mañá yet (7:15). $\frac{1}{3}$ moon new. [Foggy at 8:30] am

a *cómo* bonapole (old) up by the visacha burrows suggests that beal hunters had been up there.

aug 24 Clearish at 6 a.m. except for damp misty smokes (cotton plant burning season), but fog came in about 7 a.m. Nothing in Mañá trap line, but while running it saw a visacha near my steel traps and shot at him but missed. While checking one of the traps later he dashed out of a hole 6 feet away from me and escaped. Left 5 steel traps there.

Wild cat squashed on road at Puente Carrion.

The trap line up on the cliff at 1 mi. E. San Bartolomé, 5200 ft., caught 1 *linatus*, 1 *andium*, and 1 juv. probably *linatus*. The line at 1 mi. W Surco, 6000 ft., caught 1 juv. *Zenaidura* rat, 1 *linatus*?, and 5 *andium*? several of these pregnant, the first pregnant *andium*, *A. helina*. Several traps on the lower part of

PEARSON
1955

this line sprung & empty.

Then drove back to Lima for grease job, supplies, and news of Bahn.

Aug 26 ^{FRI.} Spent the night at Maña and in the fog at 6:30 a.m. picked up the steel traps I had left for viscacha. Nothing in them. But discovered a museum special that I had missed before, and with a live linatus in it! Back to Lima because the owners papers for truck weren't ready yesterday. Went to museum and saw more Kofke specimens, including from west slopes in northern Peru, a porcupine, an anteater, and a skunk with wooly hair. also Tayra and also a tiny crab-eating skunk from the coast. Then visited the anthropology museum and finally got my owners papers at 6 p.m. Drove to Chosica for supper and for the night.

Aug. 27 Up the hill. Opossum squashed on road at 7500 ft (matucana). Highest Schinus tree was 8700 ft., but scarce before then, and none at my 8300 ft. trapping place. According to Kofke the other common valley trees are Salix, acacia, and thorny algarrobo (Prosopis?).

Stopped for lunch at the Instituto Andino in Morococha with Dr. Hurtado, Dr. Julio Velazquez, and Hermann Bahn, then to between Oroya and Yanga for the night. Raining. Tied the Rio Mantaro in 3 places for fish but no bites.

Aug 28 a little ice overnight. a dreary morning of bumps, jolts and washboards. Lunch probably somewhere near La Mejorada between Huanayo and Ayacucho at 10,000 ft. (The Huanayo

18
 23.
 4
 22
 67
 10
 17
 15
 4 29 6
 8 19 80
 122

PEARSON
1955



II-17 Rio Mantaro, 8500 ft., looking upstream. Aug. 29
Dry short grass, schinus trees, cactus, bromeliads,
25 mi. NW Puente Alcomachay. Troops caught 2 long-tailed
Hesperomys, 2 Abodon?, and 2 Phyllotis

P. PEARSON
1955

pauper is about 11,000). At 10,500 and lower there is lots of brush, sometimes dense enough to be called chaparral. Schinus is abundant, Scotch broom, and a large variety of xerophytic dust-covered shrubs.

And in the afternoon followed the Rio Mantaro downstream still yet and stopped for the night at 8500 ft. In 8 hrs of driving and 3 hours of sightseeing and picture taking I seem to have covered about 120 miles and shipped about 20 lbs of dust.

The brush gets even bigger between 10,500 and 8,500 and in places could be called a thorn forest. Schinus 15 ft. tall and a foot or more through the trunk; an even larger tree with willow-like leaves and red wood; a thorn tree; and numerous shrubs and cacti such as big opuntia, saguaro, joint cacti, and century plants. Put out a bag of traps along a stone wall of a pasture with dry short grass, big Schinus trees (15 ft.), big opuntia trees (15 feet), and assorted smaller weeds + cacti.

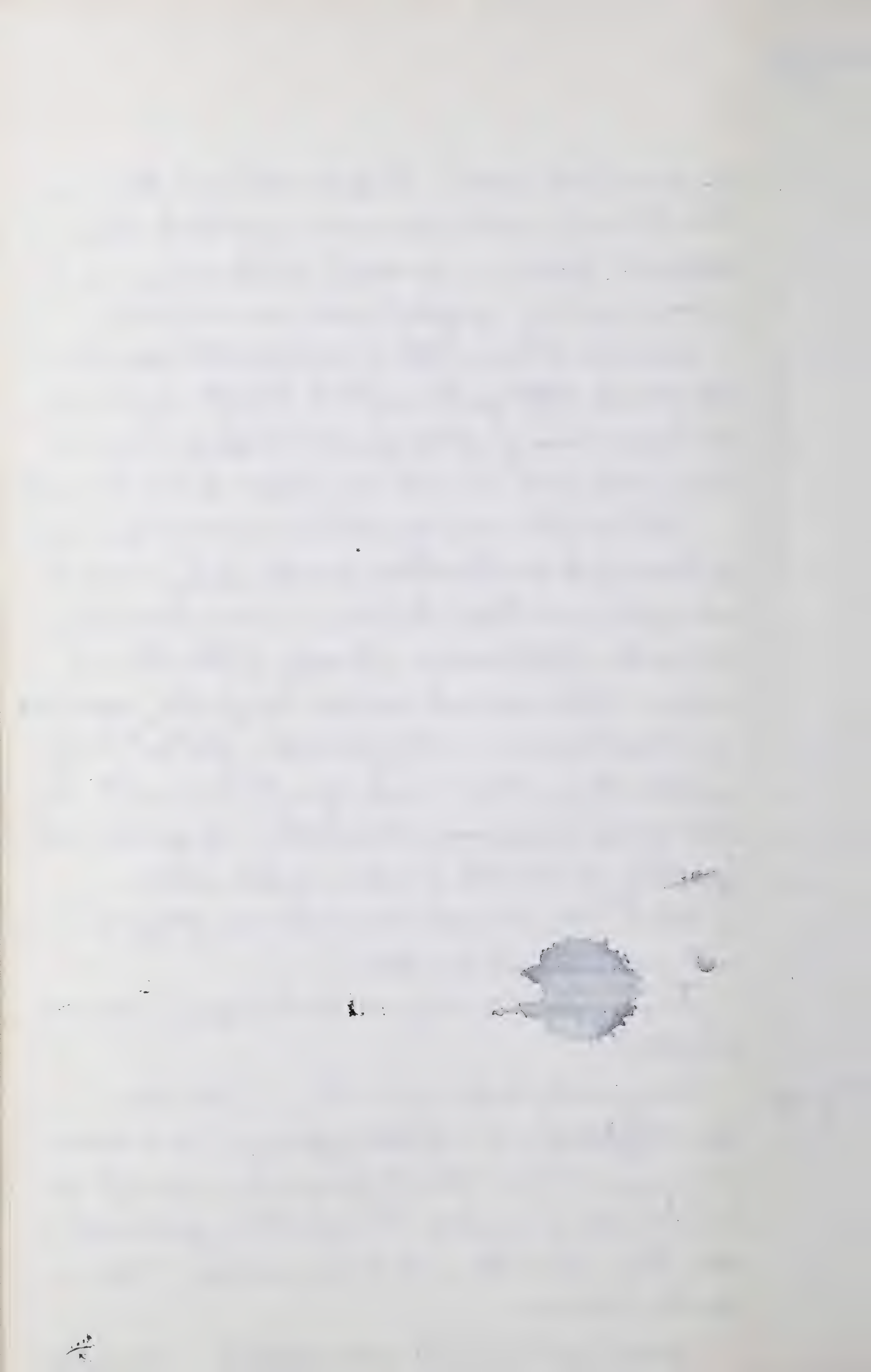
Walnut trees, at least around houses. Many of the cacti and trees with bromeliads.

Ran ^{most of} traps at 8 and 9 p.m. and had Oryzomys or abodon and 2 Phyllotis!!!

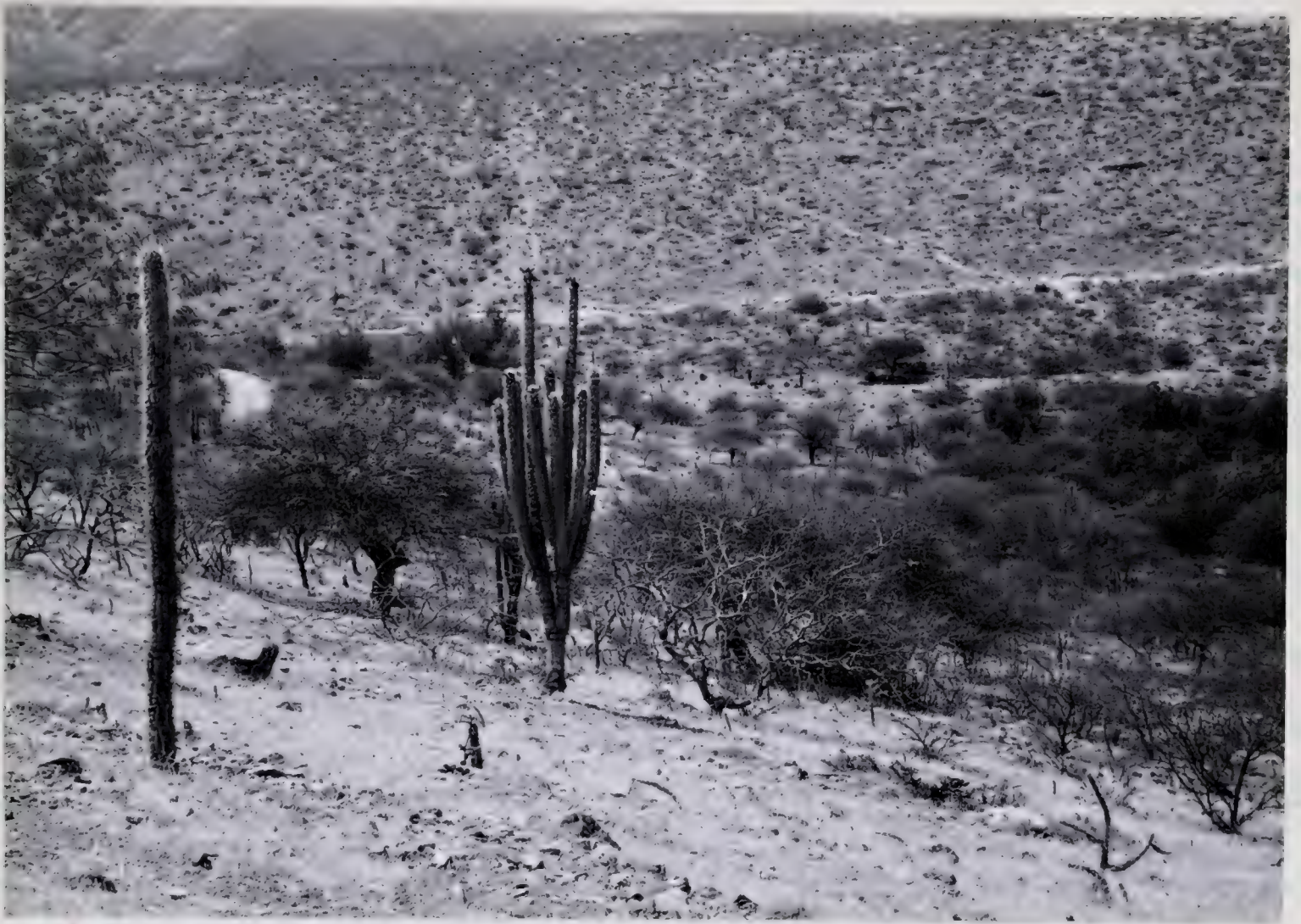
Aug. 29

Morning overcast, temp at 6:30 13°C. Total catch in traps 2 Phyllotis sp., 2 long-tailed Hesperomys, and 2 abodon or Oryzomys. There are parrots here, and a huge swift-like hummingbird with a single "peep" note and with wingbeats much slower than the smaller north american species. Feeds on opuntia blossoms.

Bones + manure of the mice were poor - from eating



PEARSON
1955



II-20 near Puente Alcomochay, 7500 ft, Aug. 29 Soquero,



II-18 Schirac, and thorn badlands. no trapping here.

cactus fruits? cochineal?

I was 20 km by road to a village Acon and 53 km by road to the Puente Alcomachay. Call it 25 mi. NW Puente Alcomachay. The Puente is about 7500 ft. and the road drops to about 7300 ft. before starting up the valley to ayacucho. Shortly below my traps sugar cane appeared, and later, bananas + oranges.

In general it was a day of shrubs, cactus and thorn scrub; goat country. Drove for 5 to 6 hours and stopped 2 miles ~~west~~ ^{south} of ayacucho, 9500 ft. some badlands shortly after leaving the Mantaro.

Put out $1\frac{1}{2}$ bags of traps in rocky open area, joint cactus, sage (a 2-foot bush with upright willow-like leaves, no thorns). The ground is very stoney-gravelly with some short grass (not bunch), grazed by goats!

Aug 30 3 Phyllotis and 1 Hesperomys in traps. Many baits rolled by crickets.

There are cactus wrens here. Clear breast. Song 3 to 6 clear pipes followed by a slightly descending lough. The first notes are sometimes grated or trilled.

Above ayacucho the road passes through a slightly bushy zone (looks like Baccharis) then opens out into lush ichu. Climbs to about 13,700 ft. Looked in vain for Mothoprocta and murra until just before the road drops off toward Rio Pampas when I saw 2 small bands of murra (short-grass pampas and some bunchgrass, 13,500) and 1 Mothoprocta. The murra would be less than 10 miles north of Puente Pampas. Then endless zigzags down into

the Schinus and cactus. First Schinus at 10,500 ft. Some real trees in the gulleys near this altitude, but lower down becomes cactus + thorn ^{and biting gnats} with ^{parrots,} sugar cane, oranges, and bananas. The river is \pm 6900 ft, with real thorn forest along the edges. The road up out of the Rio Pampas to Chicheras is along a densely brushy south facing slope with greensward etc, most of the brush being Schinus and Scotch broom. The opposite north facing slope is drier, barer; in lower part has large leafless trees draped with Spanish moss.

The ichu country between Ayacucho and Rio Pampas is quite sparsely populated. Numerous shepherds with sheep, cows, + horses, but few houses, possibly because of little water. No llamas!

The ichu looks dandy for Ph. ositae. at 2:30 I saw the road drop off toward the river and had to decide whether to camp or make a run for it. Decided to try to get down and up the other side, but no Phyllotis - looking places appeared before Chicheras, and above Chicheras it got dark, with ~~the~~ continual row of houses along the road. Camped along road maybe 20 minutes above Chicheras; no trips out.

Right about where Viñetas and Tarma appeared, hawks became much more abundant. Saw more big hawks in half hour there than on rest of trip.

Last night in the goat brush 2 miles from Ayacucho, I could hear the low fidelity public address

system, the $\frac{1}{4}$ hr. bells, and the various ecclesiastical bongings necessary to life in a Peruvian town. Tonight, full moon among the small farms of the Chuberos Valley, a dozen or more dogs are barking and a flute and drum are accompanying a bonfire in the courtyard of a small farm down below, the white-crashed adobe stands against the dark hills.

Aug. 31 The road from Chuberos to Talavera-Andahuaylas goes up into ichu country with sheep, cows, horses, no llamas. Saw no vicuñas or guanacos. Then down again into the Eucalyptus at Talavera 9200 ft. Spent a couple of hours in Talavera taking pictures and waiting for the light to be right for the shot. Then it clouded up just before the right time. The three towns Talavera, Andahuaylas, and I are all photogenic and only a few kilometers apart. The latter has a plaza that is colossal, but sun was down before I got there.

Drove up out of the valley into the ichu at 12,800 ft., and set traps among boulders by jacklight at 8 p.m.

Sept. 1 Only 1 akodon boliviensis; not saved. Temp. at 6 a.m. -4°C. Then across ichu highlands and down down to Abasco, but with magnificent snow-capped peaks and deep valleys along the way. Then up again into ichu and colossal vein of cloud-draped Salcantay and Cordillera Blanca. Then down again towards Rio Apurimac. Camped at 8000 ft. among 10-foot bushes of Lichnia, thorn, Opuntia,

PEARSON
1955

etc. and put out half a bag of traps. Full moon.

Sept 2 3 *Hesperomys* in traps. Then down to Puente Cuyaca at 6200 ft. Between 8000 and ~~and~~ a few hundred feet above the river, perhaps 6500 ft, passed not a single house. This scrubby zone seems to be little utilized except by goat grazing. Near the river there is sugar cane, yucca, etc. Passenger from Puente Cuyaca to Cuzco; his radiator had been smashed in collision night before. Then off again and drove until after dark. Crossed to Roca Roca (14,200 ft) by moonlight, good ichu country, and camped at Santa Rosa (de Aguirre), 12,800 ft., in ichu. Put out a little more than half a bag of traps along a good stone wall. Temp. +5°.

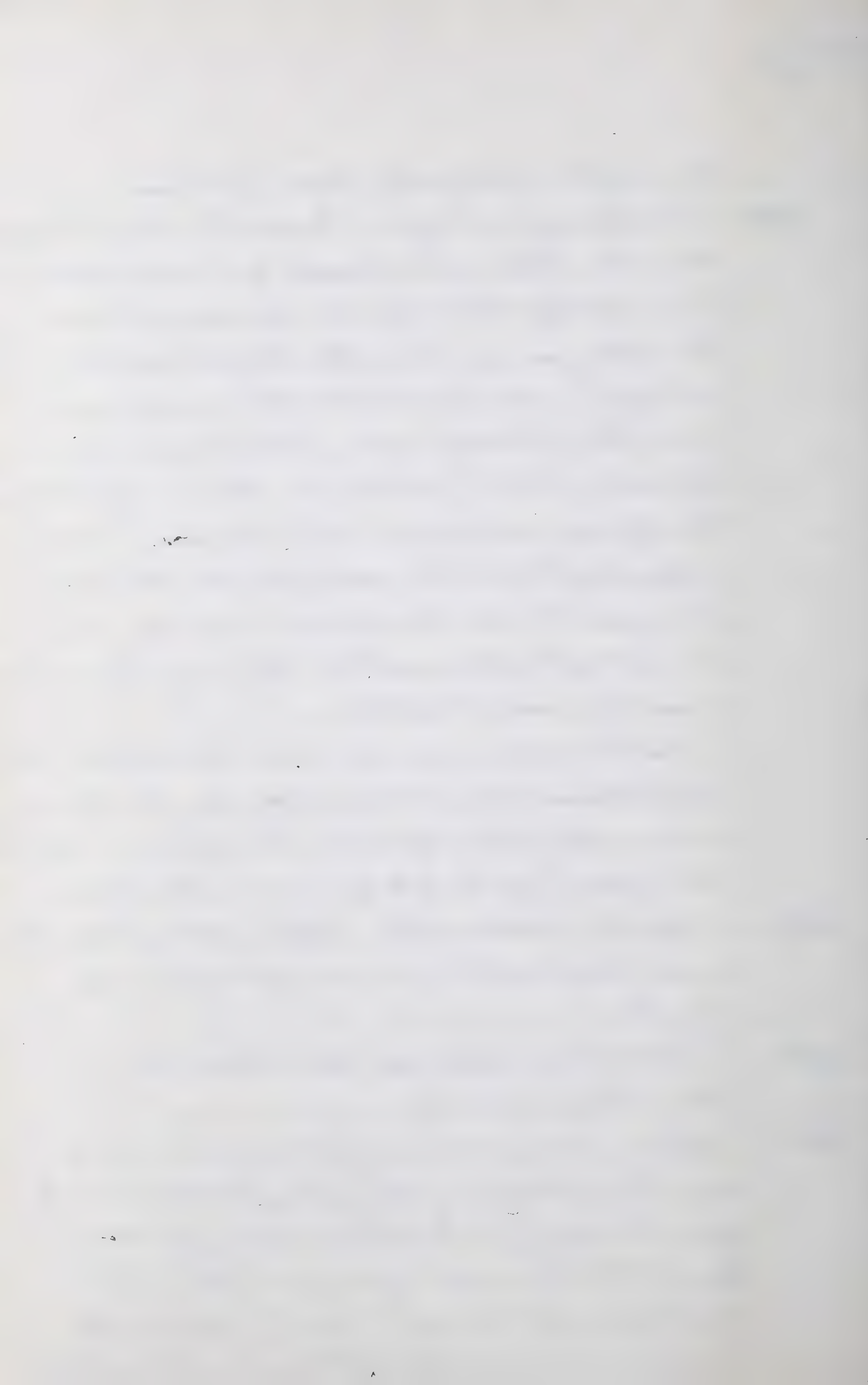
Drove like mad from 6 a.m. to 9 p.m. with about an hour out for skinning and an hour for photography. Covered from an hour north of the Rio Apurimac to Santa Rosa. Want to make Jubica before the post office closes for the weekend.

Sept. 3 Traps had 2 streakless osias. Mothura pissing all around. Arrived Jubica about 10:30 a.m. Spent day cleaning up, fishing etc.

Sept. 4 ^{SUNDAY} Jubica-Puno. Camped near plane on Tacna road.

Lightning + thunder in evening

Sept 5 About an inch of snow overnight and some rain. Couldn't get out of my camping place because of mud, so wrote letters for an hour or two waiting for sun, then it started to snow again so I had to get to work and build a road (2 hours) to get back to the "highway". Then some photography in a small field.

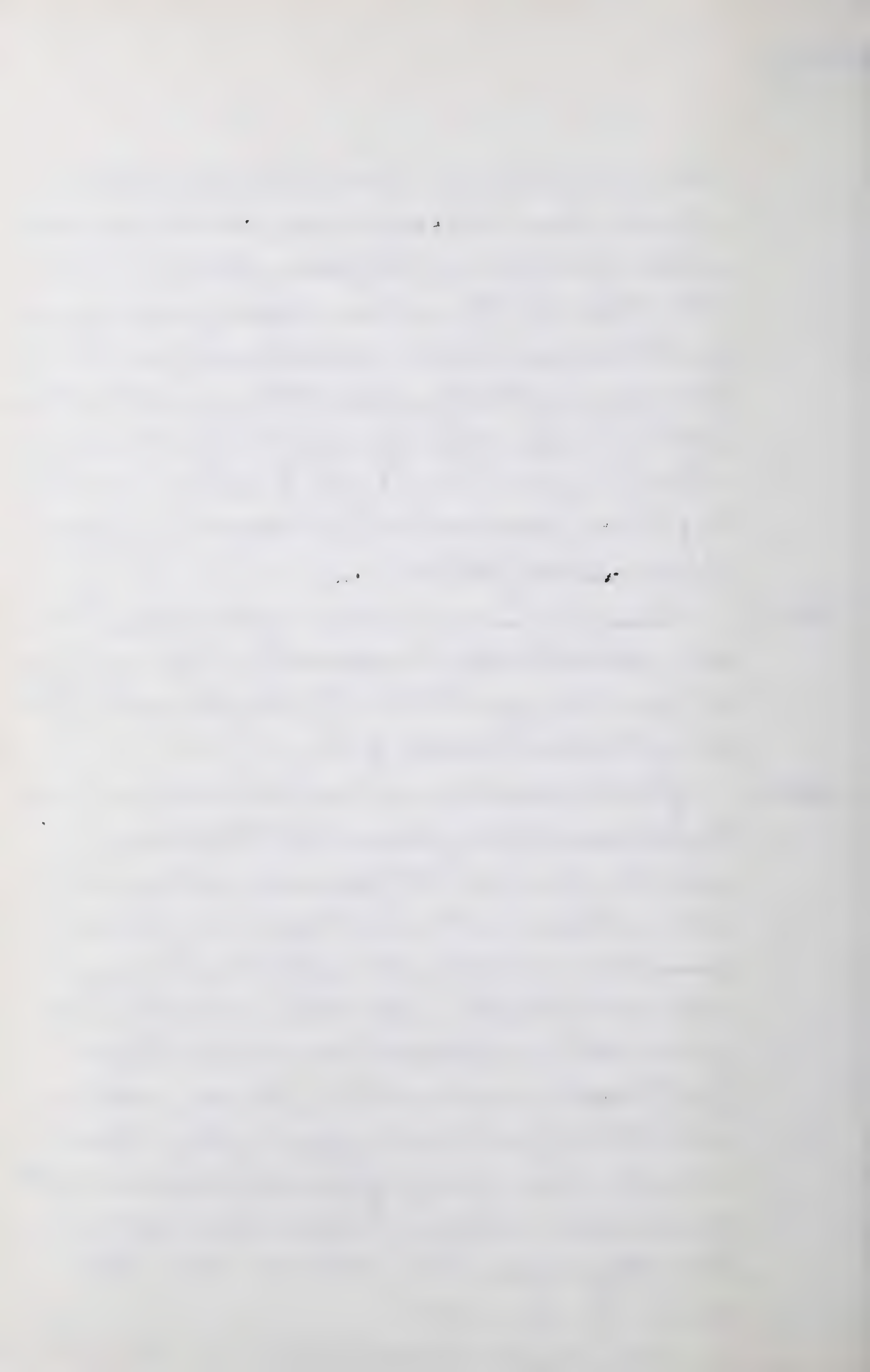


then off to Bolivia. Mine (9) control stations between Puno + Desagradero. arrived Desagradero a little after 6 p.m.; the border shuts at 6. On top of this they tell me I am lacking some paper for the truck and this is available only in Puno, 100 miles of washboard and 10 goddam control stations back! On top of this the control stations close up at 6, so I won't get to Puno in time to get any business done tomorrow. Slept at Pomata control station.

Sept 6 All day in Puno. Customs agent Orestes Bravio took 15,000 soles deposit as guarantee on return of truck to Peru. Then off with French Fulbright scholar ^{Paul Geli}; spent the night between Pomata + Juli.

Sept 7 Off to the border at 6 a.m. Took 3 hours to get through the officialdom at Desagradero and on the Bolivian side, then poor road to Viacha, where we arrived at 3 p.m. 150 km in 9 hrs. Some good ichu between Desagradero and Viacha, but mostly heavily grazed and much cultivated. Left Geli near Viacha, then drove about 20 km toward Oruro and stopped for the night on open rolling puna, mostly cultivated, the rest heavily grazed. Storey. More unused. Ichu closely cropped and Baccharis about 8 inches tall. Stones gathered into heaps. Some Margaritaria thorn bush also, and a little cushion non-fuzzy cactus.

Hail and snow for about an hour in mid-afternoon.



The evening cold (about $+4^{\circ}$) windy-blustery. Real
altiplano weather. Partly cloudy.

Sept. 8 Heavy frost, -2°C , the mice in the traps white from frost.
The slightly less than 2 bags of traps caught 1 ~~abodon~~, 2 Ph
sublimis, and 4 Ph. darwini. Mice were caught only at stone
piles a foot or more deep, preferably 2 or 3 feet deep; not ~~at~~
along the windrows of stones piled only a few stones deep,
and not away from stone piles. The big sublimis (possibly
galeosomys) was caught late because he was still hump and
unfrosted. 20 miles S La Paz, 13,000 ft.

After the frost had been removed and the specimens
dried, there seem to be: 4 Ph. darwini, 1 Hesperomys dumblei,
1 Ph. sublimis or galeosomys, and 1 mus with a bobbed tail.
This is my first record of mus from the altiplano. It was
certainly in good altiplano ^{country?} company, $\frac{1}{2}$ mile from nearest hut.

Skinned etc. until noon, then drove toward Oruro.
Good unpaved road. Much of the way was a mixture of
tola + ichu somewhat like Pampa tatra, or like
Valley of the Winds at Santa Rosa but tola here shorter.
Both Lepidophyllum quadrangulare and rigidum? present.
Passed one set of tree-tree diggings at about km 100
(about halfway between La Paz and Oruro), but saw
and heard no trees. Some holes plugged gopher-like.
Stopped at 4 p.m. on a rolling bunch-grass and tola pampa.
Ichu and a coarser bunch grass with a few patches of
mothra grass without tola. Almost all the tola is
quadrangulare, but considerably thorn bush Margaropsis
mixed in, plus a few Ephedra and cushion cactus. No

stonewalls or boulders or other shelter for long-tailed Phyllotis, but saw one mouse (Abodon?) while setting traps. Sharply eroding intermittent stream.

Expected to find tinamous, but saw & heard none.

Many flickers around, saw 2 copulations

Sept. 9 ^{FRI.} Light frost. $1\frac{1}{2}$ bags of traps had 3 Abodon boliviensis and 1 Hesperomys derilla. Heard Mothura; shot duck.

Drove to Oruro. Tola disappears before Oruro and one crosses a flat salty? pampa. Saw one band of vicuñas on this pampa, plus droppings of tucos or armadillos in one place.

Near the airport about 2 miles east of Oruro is a half-mile strip riddled with tucos diggings. Big earth mounds, no sign of territories. While watching them I heard some guttural sounds, but no bubblings when I walked across the area. Shot one (4166). Only vegetation a dry $\frac{1}{2}$ -inch ^{forb.}

The road to Cochabamba climbs up into tola-ichu something like Trinopalea, then ichu, then a Festuca-like bunch grass, then open ground with dwarf forbs and grasses plus a few ichu. A few small yareta heads. a pass at 14,500 ft. Camped in rather open ichu at 14,000 ft. and set 1 bag of traps in the only available rocky place and along an abandoned wall. Saw Abodon? droppings.

Not much agriculture near Oruro, but plowing & planting at about the 13,000 ft. level.

The Bolivian villages seem almost deserted compared to Peru; few people. Maybe result of Chaco war?

PEARSON
1955



IV-16 20 mi. S. La Paz, 13,000 ft., looking south, Sept. 8. Fallow fields with scattered heaps of stones, some ichu, 8-inch *Baccharis*, and *Margaritaria*. Traps caught 1 *abodon*, 2 *Phyllotis sublimis*, and 4 *Ph. darwini*, but only at the bigger stone piles.



IV-17 15 mi. E Tapacari, 9000 ft., Sept. 11. Thorn scrub and cactus. 8" pipeline. Traps had 17 *abodon*, 8 *Phyllotis wolffsohni*, and 1 *Graculus*. Guinea pigs seen

P. PEARSON
1955



IV-18. 5 mi. W. Comarapa, 7500ft. Sept. 13. Trap line along stone outcrops along the ridge. Very windy. Bushes, grass, ferns, many succulents, orchids. Traps caught 1 abrocoma, 1 akodon, and 5 Phyllotis wolffsohni.



IV-19. 5 mi. W. Comarapa, 7500ft. Sept. 13. Patch of cloud forest. Five traps here caught 1 abrocoma, 2 Phyllotis wolffsohni, and 2 sprung-empty.

P. PEARSON
1955



IV-20 15 mi. ESE Tiraque, 10,500ft., Sept. 15. Where quercus and brush meet bunchgrass. Traps here as well as higher up among quercus-grass and still higher in pure grass with forbs + ferns only in lee of rocks. Caught 6 akodon bolsonae, 1 Myrmecotermes, and 7 Phyllotis osinalae. Guinea pig droppings



IV-21 15 mi. E.S.E Tiraque, 10,500ft., Sept. 15. Looking down from road.

Boulder slide surrounded by 6-foot Baccharis-like bushes. Bunch-grass + quercus about 50 feet away from the rocks where 1 Phyllotis osinalae was caught.

R. PEARSON
1955



IV-22 8 mi. NE Puerca, 10,000 ft., trap site 3, Sept. 16

Boulder-stream slope; cactus, several kinds of thorn bushes, Ephedra, willow-leaved bush, a few Baccharis, spiny-leaved juniper-like, no bunchgrass. Traps caught 3 Phyllotis wolffsohni and 1 Spermophile.

This is near km. 50 on Coahuila-Santa Cruz road. Definitely "great country" in contrast to 10 mi. NE Puerca, 10,500 ft., which is altiplano and where Ph. wolffsohni and Ph. osborni were living together.

PEARSON
1955



IV-23 8 mi. NE Puuta, 10,000 ft; trap site 4, Sept. 16.
Vegetation about as in photo IV-22 on previous page. 1.4 km
from trap site 3. Caught 2 Phyllotis wolffsohni.

PEARSON

1955



IV-24 40mi. S Oruro, 12,000 ft. Sept. 17, Stony hillside
with 1-2 ft. *Baccharis* + ichu, Traps caught 5 *akodon boliviensis*,
1 *maromosa*, 2 *Phyllotis darwini*.

R. PEARSON

1955



IV-25. 5 mi. E. Uyuni, 13,000 ft, Sept. 19,

Cactuses, ephedra, various tola, a few clumps of ichu.
Note llama for size scale. Traps had 5 Bolomys and
5 Phyllotis darwini. many sprung & empty, probably
from Ochodontomys.

PEARSON

1955



IV-27 $\frac{1}{2}$ mi. E. Tilcara, 8500 ft., Sept. 30.

Cactus about 5 ft. tall. "Pillar pineapple", low *Opuntia*, saguaro, short grass, tola, *Ephedra* and a few ichu. *Octodontomys* droppings. Traps caught 1 *akodon* and 7 *Phyllotis darwini*.

PEARSON
1955



IV-29. Tilcara, 8000ft. Sept. 30. Brush and trees at edge of alfalfa field. Habitat of *Phyllotis* ~~capensis~~ and ~~andersoni~~



IV-29 alforcito, about 9000ft. Looking east across alforcito
Soyuero, short tola, bushes,
from the Garganta del Diablo above Tilcara. stone walls, grass, pillow-
pineapple, cultivated fields, willows and molle or algarrobo along the stream.

PEARSON
1955

Ran traps at 8 km and had several Ph sublimis and one Akodon boliviensis.

Sept. 10 Light frost. Temp. -2° . Traps had 13 Ph sublimis, 4 Akodon boliviensis, and 3 Hesperomys chullu. A captive sublimis got out of his cage and drowned in the water bucket. Untended Lamas bedded down on the hillside.

This camp is at km. 96 on the Oruro-Cochabamba road, 14,000 ft., 20 miles ^{NE Oruro,} ~~W of Tapaicari,~~ ^{Oruro} ~~Cochabamba~~.

at 13,500 ft. near the Oruro-Cochabamba border started to see Nothoprocta in ichu. Shot 3 and saw 6 others in a few miles. ♂ + ♀ non-breeding and a $\frac{3}{4}$ grown ♀. Also saw a flying flock of 5 hualtata, the first for weeks. No lizards. A little east of the Oruro-Cocha border started seeing a few guinea pigs along the road ^{and all the way down to 9000 ft.} walls. They may account for the droppings I thought were abrocora. The road crosses much country that looks OK for guinea, but saw none. Finally drops off on east side, first through a good guinea zone at 12,000 ft.; then becomes bushy and thorn scrub with Schinus and numerous shrubs and trees near to me. Road drops down to the Tapaicari River at about 8500 ft. (Eucalyptus, orange, cana brava). Decided to go up to Tapaicari; the wolfschumi type locality, which they said was 6 leagues upstream. The road goes straight up the river bed, which is 150 yds wide boulder stream, with the stream about 25 ft wide. It started to rain and with no escape from the river bed and miserable road that fords the stream again & again, after 6 km. I decided to come back

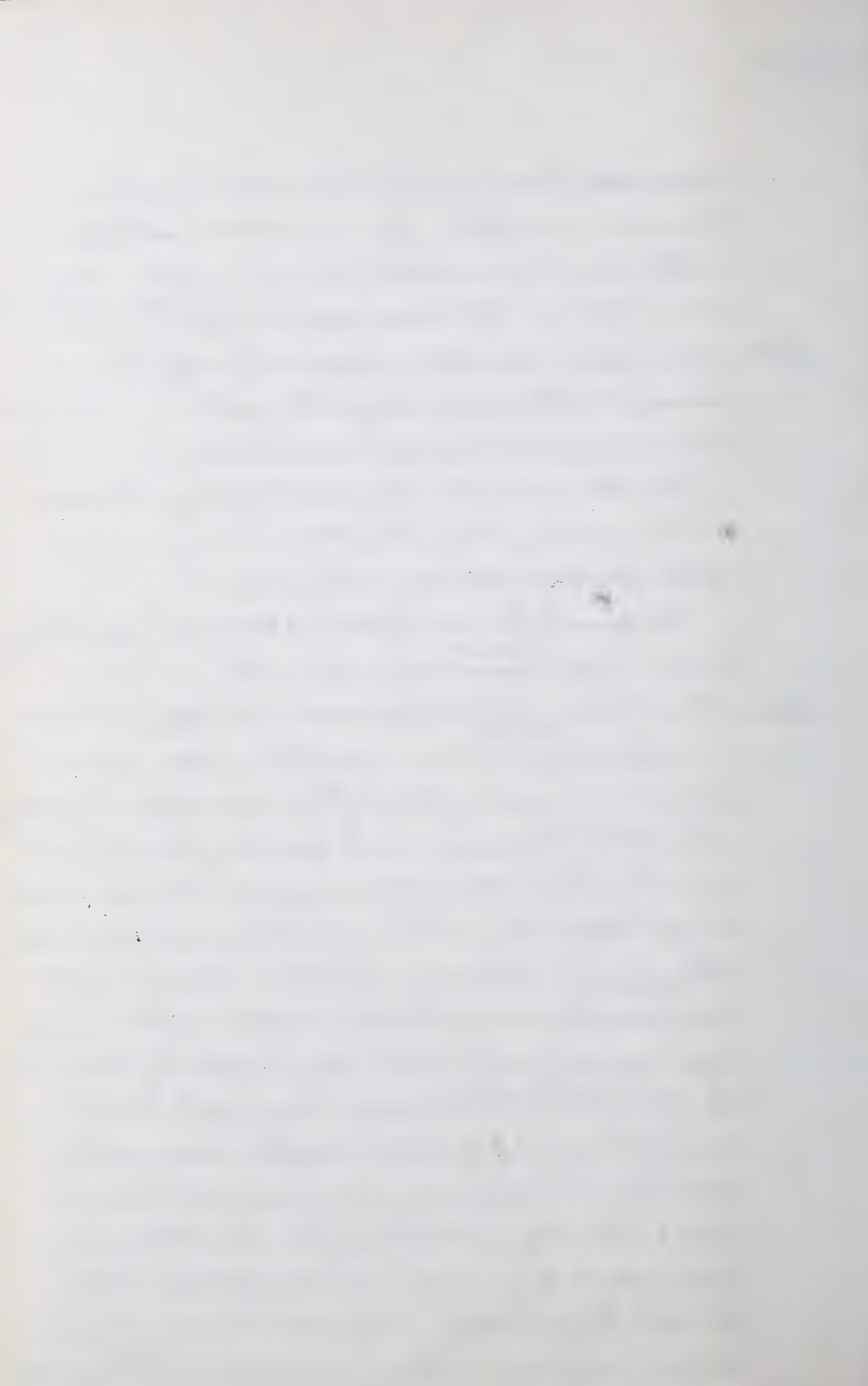
down. ~~and~~ Drove back up the Oruro road to 9000 ft in
thorn scrub, and after a few more showers set traps.
a little over 1 bag on 6 short lines, all in thorn scrub,
some cactus. Night clear, warmish. ^{15 mi. E. of Potosí, 9000 ft; Cochabamba} The pipe-line camp

Sept. 11 Morning clear. Traps had 17 abodon, 8 Ph. wolfschui, and
1 Gracops; the latter hardly distinguishable from the " , but with
a curious species of house? fastened around the hips.

The cactus over here is a big one with flashy white bands
on tail and wing. Song in three parts -- up up up,
repeated many times and many modifications.

Back down at the river (Tupiza?) at 8500 ft saw a large herd of
llamas - amidst ^[avocado?] figs, oranges, cara brava etc.

Sept. 12 Two laborious efforts to find some good trapping suburbs
of Cochabamba, ^{last night} ended in eucalyptus groves. Great
job for truck in morning, then left for Concarapa at 9:30 am.
on the Santa Cruz road. First 30 miles gloriously paved;
one is torn between going fast and going slow to make it last.
Road goes through bushy country and up into bushy grass-thorn
(Mangyrippus?) at 11,700 ft about 70 km out, and even pure
bushy grass plus some cultivation. Highest about 12,000 ft.
A good quercus zone at about 9600 ft, especially about km.
130, but later this altitude becomes cloud forest. More &
more forest as one approaches Concarapa, even a couple of
saw-mills. The road goes along a ridge between the Rio Ichilo
(north) and Rio Mizque (south) at 9500 ft. To the north is solid
forest as far as the eye can see, and solid up to this altitude.
To the south the forest is patchy, interspersed with brush & cultivation.
Cloud forest rich at 8200 and 9500 ft., even bamboo and tree ferns.

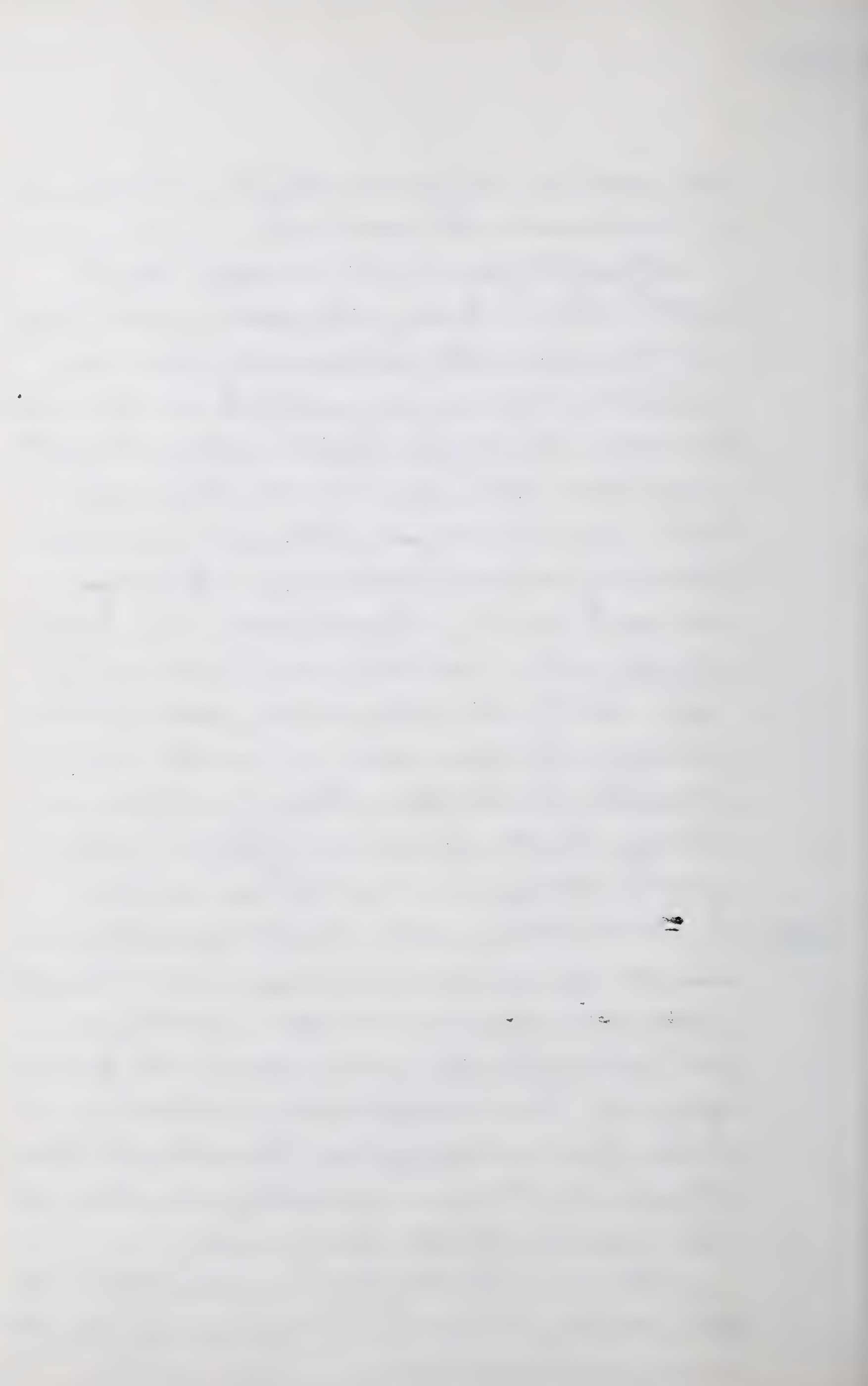


and ponds and sedge grass and sphagnum, all reminiscent of Tres Cruces and above Amalambra.

Stopped at 5 p.m. 5 mi. W Comarapa, 7500 ft. Vegetation here is bushy with patches of cloud forest, and the Comarapa valley looks similar (plus more cultivation). Can see a few small flats down below with tree cactus, but no good Phyllotis country. Set about 1 bag of traps along a ridge with rock outcrops plus bushes, grass, and many succulents, plus a few orchids (not flowering) and ferns - about a dozen of these traps in cloud forest (not wet). The past several miles have been extremely windy. Expected the wind to die down at dusk, but it's still blustering howling, rocking the truck, pushing you off balance when you are out in it. It will probably blow bait off some traps, if not blow away whole traps. Habitat looks poor for Phyllotis, too much ground cover and few burrows. Night clear + windy.

Sept. 13 TUE. Traps did better than expected. The short bag along the bushy succulent ridge with sparse rock outcrops caught 5 Ph. wolfschlagi, 1 Akodon?, and 1 Abrocoma. Five traps in a pocket of cloud forest caught 2 Ph. wolff. and one big Akodon? and the other 2 traps sprung empty. This is an epiphyte patch of cloud forest in a V in the road, cliff on one side, fringed along the road with 10-foot tobacco. Not damp or wet at this season, but definitely forest with 50-foot trees 2-ft DBH. These Phyllotis definitely in woods.

A lot of clearing of forest is going on and has gone on in the past. Comarapa is not in forest, but it is surrounded by large patches and may once have been forested.



Catching Abrocama on this bushy-orchid ridge only a few hundred yards from cloud forest makes it easier to understand Abrocama oblatum at Machupichu (in grass).

Went down into Comarapa for gas. Forgot to take altimeter but it appeared to be 500 to 1000 ft lower than my camp, which was 7500 ft. The wolffshuhi here definitely darker ~~than~~ than Topsocari. ~~Still~~ Still windy in early a.m., but slowing about 10 a.m.

Drove up the hill to the summit where cloud forest is darkest on the ridge where all is forest to the north or northeast. Camped amid patches of cloud forest, soft bunch grass meadows, ponds, and a little hard bush. Even small patches of trees only 20 feet across are "moss" covered with lots of sphagnum, orchids, fuchsia etc. Ground in many places with lycopodium, vaccinium, etc. One pond had a tern on it and 2 caracaras stalking through the grass at the edge. Alternate sun and patches of fog blowing past from the north. Put out 2 bags of traps on 6 short trap lines; forest, grass, bush, rock side from road. Hope to see how woody and boggy wolffshuhi will get and add to the series of dark specimens.

8 p.m. clear, frogs chirping all around. This camp 20 mi. E Totora, 9700 ft; Cochabamba.

Sept. 14

Morning alternately cloudy + foggy; felt like moose stream-trapping weather. Suss tried to push Phyllotis too far into the cloud forest, caught none. Only 3 dark Abrocama, 1 Myrmecotus?, and 1 Dryomys.

Left early towards Cochabamba and drove until noon. Stopped at a place where Quercus and bush meets bunch grass, where I hope to get both oside and wolffshuhi. Set two bags of traps,



the lower part of the line in quercus - grass with a mixture of other shrubs and a spring-barked small pine. Rock outcrops and stone retaining walls. In the upper part of the line only quercus and grass and finally pure grass with ^{forbs + ferns} only in lee of rock outcrops. This is a fine bunch grass, not real ichu, and there is little bare ground because of ~~the~~ grassy covering and the papery flakes of quercus bark, which have blown quite a distance from the trees. Altitude at lower traps 10,400 ft., upper ones about 300 ft or more higher. Location unknown, probably near Tirapne Chico. Heavy clouds pouring over the hills to the east only a few miles from here (the forest went through), but still sunny here (4:30 p.m.)

Sept 15 This camp 15 mi. ESE Tirapne, 10,500 ft. [Tirapne Chico of A.G.S. maps] ^{km.} 97. Dew but clear. Traps among boulders below the road in brush, 6-foot Baccharis like brush with only a little grass caught 1 osial. Bunch grass-quercus about 50 feet away. The lower, bushy part of the other line caught 3 Ph. osial and 2 Abodon boliviensis. The upper, grassy part caught 1 Oryzomyia, 4 osial, and 4 abodon. Hence, no wolffsohni, and osial living in more brush than I would have expected. Guinea pigs here.

Tirapne seems to be a nebulous locality, even to the natives here, and is further confused by there being a village "Tirapne" on the A.G.S. 1:1 million map plus a larger town "Tirapne Chico." The people I asked referred to this "Tirapne Chico" as Tirapne and looked blank at the name. Tirapne Chico.

Drove across the ichu country, then set traps at several elevations about 5 miles ^{or SW} W of Tirapne, 10,000 ft., but to avoid the confusion I shall call it 10 miles NE Pucuta. This is another

1955

windy windy place, all traps have to be placed in the lee of rocks where you hope not only the bait but the traps will remain. Heavy clouds to the north but clear here. Wind seems to be from several directions, mostly ~~west~~ north.

Sept. 16 ^{FRI.} Trap site 1 - scattered curly bunch-grass, scattered low bushes (<2 ft) such as boucharia, willow-leaved tola, lots of open gravelly ground, tumbled rocks from road. Caught 1 long-tailed Hesperomys, 3 Phyllotis and found 1 recently killed Phyllotis.

Trap site 2 - 1.3 km down the other. About the same but with bigger & better boulders from the road, some Stipa etc. etc., but mostly bare. 6 Phyllotis, 2 of them woffioides, at least 3 osilae.

Trap site 3 - 5.8 km below (west) site 1. a boulder stream slope: cactus, several kinds of thorn bushes, Ephedra, willow-leaved bush, a few boucharia, ~~spring~~ spring-leaved pineapple, no bunchgrass. 4-foot tall column cactus plus various ball cacti. This is "goat country" - thorn & cactus whereas site 1 + 2 are ~~at all~~ essentially. 3 Ph. woffioides and 1 Grouper. The Grouper in an adjacent road.

Trap site 4 - a gully with vegetation similar to site 3. Sites 3 + 4 are 1.4 km apart, straddle road km. 50. When we had been looking at an algaroba tree in the gully returned to the job and site and a dozen traps. Remained but 2 Ph. woffioides.

Total traps out $1\frac{1}{2}$ bags. Morning light drizzle, no wind. Glad to get woffioides and osilae or darwini together.

Skinned and drove to Cochabamba. Left Cochabamba 4 p.m. and decided to skip collecting because the road to Oruro was

1955

going to be closed tomorrow. Ran into heavy snowfall almost as soon as I got up into the ichu country and some snow from there all the way across the high country until just before I stopped ^{at midnight} down in the tala valley at about km 60, about $1\frac{1}{2}$ hr out from Oruro. There was about 3 inches of snow on the road near the Cochabamba end and coming down hard, less on the Oruro end. 2 mice crossed the road, could have been large Ph. sublimis. Because of the snow and the harrowing drive I was impressed at how much high country there was between Oruro & Cocha.

Sept. 17 Off again at 6 a.m., clear, and arrived Oruro 8:45 after blowout and refueling. All morning getting a tube for my other spare, then off for Uyuni. Some of the road goes across a bay of Poopo, 6 miles above water level, with flamingoes, shore birds, curlews, shrikes, ducks, & gulls. Other parts of the Poopo pampa are sand dunes, other pure Festuca orthophylla, also Baccharis and ichu and mixtures of Baccharis-ichu-Festuca. Some cultivation, even in Festuca.

Couldn't resist a stony hillside with Baccharis & ichu and no houses at 40 miles S Oruro, so stopped at 3 p.m. many stone walls, a few candleabra cactus. Parakeets here. ^{Tall 1-2 feet} ^{tall.}

Forgot to mention also wide pampas with dwarf fork vegetation like at Pichu-pichu.

Sept. 18 The trap line that was going to be so colossal gave 1 Marmosa, 2 Ph. darwini, and 5 Abodon. Hmph! Morning clear, calm, frost on windshield.

A few miles south of camp in tala-ichu shot 2 Neotoma, one a laying female. Country about same to

P. PEARSON
1955

Challapata where it gets much sandier. One man in " when asked about the road to Rio Mulator said it was good but a little sandy. Dozens of places where people had ~~to~~ need tola and grade to escape from sandy places in the road showed that he was right. Much pampa with Festuca orthophylla and drifted sand, also tola (mostly quadrangular) and sand, and combinations of these plus ichu and Margyriopsis? also pampa of dwarf forbes. Many tucos, which they call tojos or tocos. A little cultivation, and a little grazing (sheep, burros, llamas) but mostly tucos + tola. A railroad station an hour north of Rio Mulator had 5 acre-feet of cut + bunched tola piled up by the tracks waiting to be shipped.

Saw a band of 6 vicuñas just north of Rio Mulator and 2 stray vicuñas grazing with llamas just south of Rio Mulator. Gorgeous pampas should have had lots more.

Stopped for a couple of hours for skinning and laundry, then drove until 5:30 to 16 mi. ESE Rio Mulator, 12,800 ft., Potosí. Set one bag of traps in tola + bare stony ground (but ⁵ no rock shelter or boulders). The tola 2-3 ft tall and ~~5~~ species including Baccharis, narrow-leaved Baccharis, Lepidophyllum quadrangulare, and 2 thorny species, one reminiscent of Margyriopsis but bigger. Only a couple of clumps of Stipa on the whole line; a few cushion cactus and one lone 8-foot phallic cactus. Saw 3 cars on the road all day.

Sept. 19

Night clear, calm, no frost. Temp 6 a.m. +2°. In traps nothing; one spring empty. Heard 2 groups of Tiarnotis, no



P. PEARSON
1955

Festuca right here but none nearby.

Drove to Uyuni for mail & gas, then east of town for trapsites.

Site 1 - Pampa, 1 mi. E Uyuni, 12,100 ft. Very bare sandy pampa with half-hearted pillows of yareta, dwarf grass, dried thorn plants about 8" high, and a few piles of rocks where the traps are set. Saw 2 very small lizards.

Site 2 - 2 mi. E Uyuni, 12,100 ft. Drifted sand and tula.

Site 3 - 5 mi E Uyuni, 13,000 ft, a rocky hill with 8-foot phallic cactus, shorter fuzzy cactus, pillow cactus, Ephedra, and various tula, a few clumps of ichu.

Sept. 20 ^{TUE} Uyuni. The high wind which I was setting traps yesterday afternoon died down at dusk, came up again during the night, was gone at dawn, then came up again during the morning.

Heard Trochilidae calling, saw parakeets.

Line 1 had 3 Elgmodontia; Line 2 had 1 Elgmodontia; line 3 had 5 Ph. darwini & 5 Bolomys albiventer? many springs & empty, probably by Alrocons? or Octodontomys?, whose scats and white urine were abundant.

Haircut and negotiations for repair of spare tire in Uyuni, then set $1\frac{1}{2}$ logs of traps part way up the hill east of town. Not as high as Site 3 of last night, not as much cactus; mostly bare stony ground and 1-foot narrow-based Baccharis, some cushion cactus and fuzzy cactus but none of the big phallic cactus. All sets along road-supporting stone walls. Evening clear & calm.

Checked out trap line at 8:30 p.m. and had 2 Phyllotis and discovered the last that springs the traps. Out of a stone wall he chuckled at me and with the flashlight I could see only a few

nearer away a big Octodon or Octodontomys (big, grey, long tail with black brush at end). could almost touch him.

Sept. 21 5 Ph. darwini and 2 rusty Bolomys. at least 15 traps sprung & empty by Octodon. Two of them had joints of cactus in them, one of the joints half eaten. This is the least with the white urine, it is the wood rat of this area.

As the result of a great confusion of information & misinformation about roads from Uyuni to Tupiza, I find myself camped in the center of a 200-yard wide boulder-stream river bed $6\frac{1}{2}$ hours out of Uyuni, including an hour stuck in the mud. almost certainly I took the wrong advice, because ~~according~~ I have been winding down creek bottoms much of the afternoon and my last 2 hitchhikers tell me ^{that} this is the Rio Blanco I am descending and that the town of Rio Blanco is 50 km. downstream. The road went from Uyuni to Pulacayo, then west of Cerro China, near Cerro Tasa, then disappeared into creek bottoms. Much sparse Poa near China, salty, stony, scattered short tola, numerous vicuña but scattered and not ^(between 12,500 & 13,000 ft) many well developed herds. No obvious young. Bare eroded hills with very sparse tola; and practically no people. as uninhabited as any part of the altiplano I know. No cars on the road. Asked one of my 3 hitchhikers how many cars a day went by, and he said once a week.

The river bottom now is beginning to get "goaty" with a mixture of bushes, cactus (low and cardelinas), and a fairly big thorn tree 12 ft tall and 8 inches diam. Practically no grass. a few houses now but none upstream. General situation almost identical with the Tupiza road that I decided not to ascend.

1955

Stopped at 6:30 in mid-river bed with rainbow downstream,
thunder upstream, sprinkles of rain here. Damn the flash floods;
set some traps - a little over $\frac{1}{2}$ bag before it got dark.
altitude 11,000 ft. Big Schinus trees. 30 mi. WNW Cotagaita.

Sept 22

TH Only one mouse in traps, a Peromyscus. About half of them
sprung & empty - probably Octodon. Off downstream at
6:30 a.m.. In 3 hours forded the Rio Blanco 90 times.
In fact 100 crossings in first 30 miles, and some of the fords
deep enough to drown a passenger car. Not much change
in vegetation; fruit trees in bloom but not ripe since
Feb. + March.

Cotagaita about 11 a.m.; welcomed by officials as though I
were the first car in weeks. They had to hunt up the key to the
office to get the stamp to mark my Hoja de Ruta. Then
about 4 hours to Tupiza. Interesting passenger who knew
some of the plants & animals. Calls Schinus "molle", hence the
species name. Still thorn tree cactus goat country all the
way to Tupiza. Camped in a spectacularly eroded quebrada
1 mi. N Tupiza, 10,000 ft. with thorn tree, cardelino cactus,
low opuntia, various shrubs, a few clumps of ichu.
Lots of rocks. Habitat a bit more open (more open ground
between plants) ~~than~~ than the good Ph. wallfischii country
that I have seen so far. It seems to be ~~an~~ Octodon here, too.

Flocks of goats drifted down the canyon just before dusk,
plus burros loaded with firewood

Jacklighting at 8. Heard an Octodon in a patch of low opuntia
but couldn't see him. Poor will.

P. PEARSON
1955

Sept. 23 ^{Tupiza} Nothing in traps, 2 springs empty, a few boots gone by ants, and such a nice canyon!

Truck wouldn't start. All morning + afternoon getting to Tupiza and locating a "new" condenser, and getting permission from the rationing board and the alcalde to change the oil + grease the truck. Greasing, tuning etc. expertly done by Demetrio Pinto, the truck driver hauled to help get me started. Lunch and supper with his family - 5 doves that he collected with one shot of his 16 ga. gun. He has 2 other shotguns. He knows 2 kinds of tinamous and recognized the Tinamotis call.

Sept. 24 ^{SAT.} Off about 10^{am} after selling Demetrio the Polaroid camera - at no profit. He and his family came along and paced me for the first 7 miles to be sure that I could get across the San Juan River. Water about 3" over running board, but no trouble. The country south of Nazareno becomes slightly brushier and nice clumps of ichu became common in addition to a sparse fuzz of dried short grass in places. The ichu and short grass were almost lacking at the Tupiza canyon. Camped at Yuruma, 20 mi. SSW Tupiza, Potosi, 10,500 ft. Here are thorn trees (no leaves now), another tree of similar shape with pale grey-green bark + big pods and tiny dissected leaves (but no leaves now), a 4-foot ~~phedra~~ with things bigger than a pencil, ichu, saguaro, a few low spreading opuntia, and goats. Put one bag of traps in ~~phedra~~-thorn and another in thorn-ichu-saguaro-~~phedra~~. Numerous guinea pig or octodon droppings.

Jacklighting revealed one seromys in a hole of thorn branches left by woodcutters. Some eyeshine.

Sept. 25 Yuruma. The efledra-thorn trap line had 4 Hesperomys, all in somewhat grassy places (ichu). The cactus-thorn-ichu line had 2 Hesperomys (grassy), 1 Graculus (thorny), and, at last, one big Octodon. [one of the Graculus upon skinning turns out to be a Phyllotis. Belly lighter greyer, lateral line brighter, foot pads different, seems more like darwini than graculus]

just beyond the pueblo of Yuruma the vegetation changes abruptly. No more cactus, no efledra; a dry tola appears - like a narrow-leaved Baccharis about a foot tall. This makes pampas + rolling hills of bushy thorn (not real trees as at Yuruma), tola, and ichu. Still lots of bare ground.

Camped at 5 mi. N Villazon, 11,500 ft, at one of two rock outcrops seen today, and the outcrops not providing much shelter for Phyllotis. Vegetation is tola, grass (not ichu but an oat-like stem) and widely scattered thorn bushes. Used to be some bigger thorn trees but recently cut. Cold + windy. About 1 1/4 bags of traps out. Few phyllotisi places to set, boots, sheep, + burrows.

Sept. 26 Traps held 5 Eligmodontia (under thorn bushes on pampas), 3 Hesperomys, 1 Bolomys (under thorn on pampas), and 2 Phyllotis darwini (in rocks), one of these in front of the only good burrow that I saw. Night clear with light frost + dew.

a ghastly day wrestling with the aduana. He won. Truck is impounded, I am in a "hotel," go to Argentina tomorrow by train at 9:30 a.m.

Sept. 27. The police official who stamps passports showed up at 9 a.m. and dash with suitcase down railroad tracks (incl. toward train waiting at La Buena station. ^{Bolivia} Guard at gate says I need permit to pass with 100 mouse traps. and dash back to Villazon aduana who says don't

PEARSON
1955

need permit, but who under the urgency of the situation ~~dash~~ dashes off a memo that gets me past the Bolivian guard into Argentina. 10 minutes to go. an Argentine guard escorts me to the Argentine customs, where we wait until the Argentine aduana shows up for work at 9:30. So we sit and watch my train pull out. That's all right says the guard, there will be another train day after tomorrow. Three days to travel 1 mile.

At 3 p.m. found a truck load of coca leaving for Jujuy and got a ride on top. The road from La Quiaca to Abra Pampa is wide pampa with mountains in the distance to the left and right, sometimes sandy, lots of tucu droppings. An Argentine passenger called them "tojo", not tucu-tucu. Abra Pampa is flat pampa, short grass, muggy rearing tola, some bunch grass, and some rocky hills $\frac{1}{2}$ mile SW of town. These are the first hills close to road and look fine for Ph. darwini. ~~Right~~ Right turn here for Casabinda. From Abra Pampa to Tres Cruces is more hilly, good altiplano, OK for darwini. Park at Tres Cruces but $\frac{3}{4}$ moon enabled me to get an idea of the vegetation. Quite a stretch of tola and of good altiplano, then descent into a thorn zone. Thorn bushes and saguaro appear a little above Humahuaca, the saguaro cactus being especially dense for a while. Then a more arid stretch between Humahuaca and Tilcara. Humahuaca, despite size of letters on map, is much bigger than Tilcara and quite charming, with old colonial street lights etc. No really bushy zone seen, except the thorn tree zone.

1955

Sept. 28 Tilcara. The valley here is full of Lombardy poplars, willows, a few Schinus trees, and fruit trees such as pears, peaches, apples, cherries (in bloom), but the hills on both sides are quite arid. Put out $1\frac{1}{2}$ bags of traps east of town and about 500 ft. higher in an interesting combination of short grass, tola, *ephedra* (these stems but not nearly as tall as at Yurumay), low *opuntia*, a few clumps of ichu, scattered saguaro cactus, ^{some smaller} cactuses, and much "Pillow pineapple". This is a pillow-forming plant that from 50 feet looks like a medium-sized *Tillandsia*, but the leaves are exceedingly sharp tipped and stiff & the blossoms are long, tubular, yellow, much larger than in *Tillandsia*. This pillow/pineapple dominates much of my trap line. Many good big rocks, but most or all the holes dominated, I fear, by *Octodon* whose droppings & white urine were abundant.

I bogged down from extreme thirst before all the traps were out. Arrived here with a great water deficit from Villayon and didn't have time to make it up at the Hotel Esperanza and our "pos" in the village, so am now drinking quarts of local water.

Put out about a dozen more traps along a slightly brushy stone wall near the cemetery at dusk.

On upper line - parakeets, hummer, sheep, goats

Sept. 29 TH 3 *Ph. ~~guianensis~~ ^{caperana}* in the graveyard line and 7 *Ph. darwini* in the hillside line east of town. Also 1 *Abodon* on hillside line.

at dusk put about 1 bag of traps around an alfalfa pasture on the edge of town - stone wall, some brush, and ~~a~~ large leafless thornless trees. Lots of twigs, leaves & litter on the ground. This tree has loose shreddy

PEARSON
1955

(must be a deciduous schinos)
bark and compound leaves with alternate leaflets. Nearby there is
a historic algarrobo also with bronze tablet. Under this tree occurred
some heroic deed during the war with Spain. ⁽¹⁸¹⁹⁾ The whole valley may
have had many more trees at one time.

at 10 p.m. (after dinner!) put $\frac{1}{2}$ bag of traps (by ^{full} moonlight) around
the cemetery.

Sept. 30

^{Tilecara} Cemetery line had nothing. Stone wall around edge of pasture
had 3 Ph. ^{caperana} graenicheri and 1 big Ph. ^{andersoni} nogalensis. The latter along
stone wall, somewhat brushy, with Schinos trees. ^{Now walnuts, although a few in the village.}

In afternoon walked to La Garganta del Diablo, a dramatic
^{7 km. by road} canyon east of town. About a mile further on ~~and~~ are a
couple of farms that according to one of the people in Tilecara
is ~~Tilecara~~ Alfarito, a location given by Thomas as 15 km
NE Moirana. There used to be a good road to Alfarito, but
soil slides have narrowed it to a burro trail. At Alfarito
are a stream with waterfalls, saguaro, short tola, bushes,
old stone walls, grass, a few cultivated fields, some fallow -
pineapples but not as much as on the hills nearby, a few
willows, and some Schinos or algarrobo. The stone wall
with some brush and the tola with loose rocks looks like a
good meeting place for Ph. darwini and ^{caperana} graenicheri - as
Simon or Budin found.

a cold wind blowing up the valley most of the day with misty
clouds on the nearby hills, but mostly sunny here.

Local yokels say Sierra de Zenta is east of Humahuaca, not 10 km E
of Tilecara as I have recorded from Thomas. This makes sense with the A.G.S. map.

Oct. 1

almost 2 bags of traps out along brushy stone walls. Early
part of night cloudy, but clear in a.m. with light frost in

R. PEARSON
1955

gracivoides = caprimus

places. another ~~ph~~^{andromys} negalaria in same place, and a gracivoides only 6 feet away. Two other gracivoides elsewhere on the line. Haven't detected any difference in habitat preference. Both are nocturnal, both with green vegetable matter in stomach.

~~Oct 12~~ at 3:30 took the omnibus to Leon (two hours). In general it seems to be a descent down the valley to greater rainfall.

Mainará - trifle more grass than Tilcara, otherwise same.

Lumanaica turnoff - same as Tilcara

Tumbaya - some quite brushy playos, hills with saguaro and brushy sage.

Volcan - Valley with willows, irrigated greenward, dandelions. Saguaro almost gone and hills grassier.

2000 m. - Short grass and bunch grass on east facing slope of valley; grass + thorn bush on west facing.

Leon - West facing slope almost completely covered with a brushy forest. East facing slope has tall brush on lower slopes and grass higher up. Both short grass and bunch grass. The brush is 10-15 ft tall, ^{many thorny species,} some trees. Pretty well worked over by goats, cows, horses. Open places are grassy, little bare ground except under the brush, and much of this covered with small leaves + twigs. In the valley are willows, eucalyptus, fig, peaches, roses etc. Rarely snow here, more often in Tilcara.

Put out a little over one bag of traps after fracas with a goat woman.

Mostly along stone walls on edge of brush and pasture + brushy cemetery.

Oct. 2. Leon. Not a trap touched, even by ants. The osilal from here must have come from up in the bunchgrass. Osgood's yala must be the one between here and Jijony, not the one on the A.G.S. map NE of Tilara.

I put out 2 logs of traps on hill $\frac{1}{2}$ mi. W of the station and about 500 ft. higher. Most of them along 2 stone walls. One wall through bunchgrass - ichu & others. The other wall with bunchgrass but also lots of broken, bushes, a few trees. Scared up 2 smallish tinamous with more interrupted flight than Nothoprocta. altiplano birds looking, but the bunchgrass line looks OK for osilal.

Could see for up & down the valley. The forest on the east side only goes for a mile or so above Leon. To the south the valley becomes much wider, flatter.

Oct. 3 ^{nov.} Leon. 4 Ph osilal, 1 Hesperomys, 1 Myrmecotermis?, and 1 Marmosa, the latter in one of the highest traps, near osilal. The opy also near osilal. One osilal was in the brushy - bunchgrass line.

Scared up 3 tinamous: 2 smallish, one almost as big as adult Nothoprocta, but different flight.

Sign at Leon station says 1622 m. The river is not more than 50 ft. lower, so the labels on Simon's or Bodin's labels (1500) are approx.

Gruesome train ride from Leon to La Oroya - 10 hours to go a little over 100 miles, garbage-filled coaches, no seat.

Good bunch grass up to Volcan; almost certainly osidal here. Sign at Tilcara station says 2460 m., not 2300 as on British Museum specimens or Thomas papers. Fit labels of my specimens accordingly. A little above Punavaria ^{marca} is a stretch of thorn-tree, saguaro, opuntia, with a sprinkling of low grass. Saguaro cactus called "cardón" here.

Oct. 4 All morning getting across border etc., then just as I was ready to leave Villazon a carabinero foisted two hitchhikers off on me. They are probably coca smugglers. I explained in time that I was going to set traps and camp out and they said they were accustomed to this, but when I stopped at 5:30, one of them asked where they were going to eat & sleep. I set traps until dark, then took them down to Quebrada Honda where they said there was a hotel. Two short bags of traps in rocky tala. 25 mi. NE Villazon, 12,200 ft. Most of the route here from Villazon has been stoney tala, with one quebrada of thorn, saguaro, & grass. Night cloudy, sprinkles of rain, black.

There is another Tres Cruces west of Yujay, but probably not the one where Simon (or Budin?) collected.

Oct. 5 Traps were in mostly rocky Baccharis? 1-2 feet tall, with some other pungent tala as well, especially along the bottom of the wash. A few 6-foot thorny bushes, a few clumps of grass, and some short cacti. Traps caught 4 Ph. darwini. This locality, 25 mi. NE Villazon, is near a few huts and "hotel" known as Quebrada Honda.

Drove to Tarija. First part of drive more tala, then good pericoma including a summit at 13,000 ft. In one place

PEARSON
1955

a few patches of Festuca. The Sama locality is richer but very rocky. Much of the country with caracaras, Kurá miners etc, a lake with coots + flamingoes. Then a long rocky road descent to Tarija, which is goat country. Much bare ground or sparse grass with thorn trees, schinas, a few cacti, and goats. Under cultivation are corn, vegetables etc, plus fruit trees (not citrus), caña brava. Thunder and heavy rain at 4:30 delayed traps setting, but got out 2 bags before dark in good "goat country" along stone walls (not many stone walls around) and on bouldered hill. Many guinea pig droppings. Vegetation thorn bush + thorn tree (including algarrobo), schinas, smaller "sage" bushes, and sparse grass and cactus (some low opuntia, no saguaro). One of the stone walls was supplemented by thorn branches piled along and on it. This locality a few miles south of Tarija, 6700 ft. Much badlands hereabout.

Oct. 6 Traps with 7 Draomys, ⁷ Abodon, and 1 Marmosa. morning sunny, clouds pouring over the mountain range to the southeast. a great many traps sprung + empty, many baits stolen by ants.

Looked for spring shackle bolt in Tarija, then drove back toward Sama in search of Ph. graciventer or wolffsohni. Camped at 8200 ft. in scattered tala, thorn bushes, and bunch grass (curly), with short grasses abundant also. Soil very shallow. A few algarrobos up to 10 ft or so. Traps around a brushy house ruin, along a stone wall, and along a creek. Late afternoon + evening cloudy. Nothura calling at dusk. 10 miles NW Tarija. No cactus

PEARSON
1955



IV-0. Leon, 5300 ft., from railroad station looking west, Oct. 3
Traps at 1 in tall brush (10-15 ft) and pasture, heavily used
by goats, cows, & horses, were untouched. Traps at 2, (5800 ft.),
along a stone wall through ichu and a stone wall through
bunchgrass - bushes - bracken caught 1 Hesperomys, 1 Onychomys,
1 Marmosa, and 4 Phyllotis osinal.

1955



V-2 5 mi. S. Tarija, 6700 ft. Oct. 6. Thorn-covered stone wall $4\frac{1}{2}$ ft tall. Thorn trees, algarrobo, molle, "sage", sparse grass, low opuntia. Guinea pig droppings. Traps caught Akodon and Graculus.



V-3. 5 mi. S Tarija, 6700 ft. Oct. 6. Vegetation as above. Traps caught Akodon, Graculus, and Marmosa.

P. PEARSON
1955



IV-4. 10 mi. NW Tajiya, 8200 ft. Oct. 7. Scattered tola, thorn bushes, curly bunch grass, short grass, no cactus. mothura abundant. many big carinorona ants. Tracks around brick-green stone ruins (1) and stone wall (2) caught 3 Abodon boliviana, 2 long-tailed Oryzomys, and 1 Phyllotis ruber.



V-5. 25 mi. SSE Camotagui, 11,500 ft., Oct 8. Saguaro, thornbush, grass, cactus. This is the lower edge of ichu, upper edge of cactus thorn. along this road-wall caught merriamii, hesperomys, ardisoni, and Phyllotis darwini.

P. PEARSON
1955



V-6. 25 mi. SSE Carrizagüí, 11,500 ft. Pillow pineapple and larger unvaried pineapple in addition to vegetation of V-5. Arachnomyz caught along this retaining wall.



V-7 25 mi. SSE Carrizagüí, 11,500 ft. Oct. 8. a few hundred yards from V-5 and V-6. Many Phyllotis darwini along the road wall.

1955

PEARSON
1955



IV-8. 20 mi. SSE Camatagui, 8500 ft. Oct. 9. Scattered shrubs including thorn trees up to 10 ft and "creosote bush" up to 5 ft; yatropha, low opuntia, a clumpy sharp pineapple. No saguaro or fuzzy cactus. Practically no grass, no bunch grass. Trap line (3 arrows) caught Gerrhonotus and Phyllotis capensis in large numbers.



IV-9. 20 mi. SSE Camatagui, 8500 ft. as above, Phyllotis capensis caught at arrow.

P. PEARSON
1955



V-10 20 mi. SSE Carratogun, 8500 ft., Oct. 9. Phyllotis capensis
caught along stone wall.



V-12 Carratogun, 8500 ft., Oct. 11. Slope similar to trap line
that caught 3 Phyllotis capensis

Oct. 7 Traps had 1 Ph. ozotae?, 2 long-tailed Oryzomys, and 3 Octodon boliviensis. The big, active ants present at almost every trap site when I set the traps turn out to be highly carnivorous, but they left the corn meal bait alone. Much Nothura feeding in early a.m. Heavy dew.

Drove from 9 to 1; mostly curly bunch grass, as at overnight camp, up to summit, then good ichu and murgu reappears from Sama north. Stopped early because it looked like good Phyllotis country and the road far ahead seemed to go through poor country. Here seems to be lower edge of ichu and upper edge of cactus-thorn. Two bags of traps set along road-retaining wall. Lots of saguaro, fuzzy cactus, low opuntia and other cacti, thorn bushes up to 5 ft high, Passiflora pinapple as at Tilcara, snail shells as at Tilcara, ichu, and assorted small shrubs. Reminiscent of Yuruma (which is not far away) but no ephedra, reminiscent of Tilcara, ⁸⁵⁰⁰ but grassier. Many Octodon droppings.

Evening clear & windy. Ran half the traps 8-9 and had 4 Hesperomys, 2 Ph. darwini, and 1 what looks like Ph. ~~notholais~~ ^{andersoni}, very much still alive in the trap. Shot 1 Marmosa in stone wall near big thorn bush.

The locality about 25 mi. SSE Camataqui, 11,500 ft; Tarija. Actually there are a half dozen huts here that call themselves Ciengillas, but not on maps.

Oct. 8. Much ratones. Five more Ph. ~~notholais~~ ^{andersoni} making 6 in all (there is considerable possibility that these are Andinomys, not notholais); a total of 4 Hesperomys?; the 1 Marmosa shot; and 15 Ph. darwini. all of the notholais on the first part of the line, and most of the darwini around the corner on the second part.

P. PEARSON
1955

Skinned until 3 p.m., then drove until 5, but $\frac{1}{2}$ hour stuck in mud. Stopped at 8500 ft, probably approaching El Puente and Rio San Juan (again). Set 2 bags of traps along stone walls and rocky slopes

SUN
Oct-9

This locality 20 mi. SSE Camatagui, 8500 ft; Tariza. Guinea pigs here, and goats. In traps were Graomys and Phyllotis. One or two good Graomys, a few shoddy ones (Ph. graomoides?), and a lot of darwini? but longer-tailed than yesterday's. Total 20 mice, ~~nothing~~ ^{= coprinus} ~~else~~ of genus Phyllotis (Graomys), nothing else. Luck may have put me down in a place where Ph. graomoides is an intergrade or hybrid. In any event, I am in a place where I can't tell what I'm catching, so am going to stay another night to compound the confusion. 46 mice in 2 nights, 35 of them saved. Even under the mattresses they begin to stink about 3 p.m.

While running my traps in a.m. a truck broke two belts out of its differential 100 yards from camp, so I had company all day who drank up all my water. Skinned until 3 p.m., then towed the truck a mile down the road to a couple of huts under big molle trees. My locality is about 2 miles south of the bridge over the San Juan River, maybe 3 miles S of a Pueblo, Las Carreras. For vegetation see mañana. Put out 1 $\frac{1}{2}$ bags of traps in about same locations as yesterday.

Oct-10

This is goat country also. Fine red sand in the wash, stony hillsides. Practically no grass, no bunch grass. Scattered shrubs including small thorn trees up to 10 ft, a creosote bush up to 5 ft, a small "fig" similar to that at Chosica, assorted other bushes, mostly thorny, low opuntia, but no saguaro or fuzzy cactus. A chunky pineapple somewhat larger & more scrappy than the one

R. PEARSON
1955

at Tleaca but similarly sharp pointed. Schinus a mile down stream near the river.

13 unidentified Geomys - darwini - wolffshani - gambelii in the traps. Skinned until 11, then drove north up the valley to Camargo at 4 p.m. Much of the quebrada is same as at camp, but bushes become smaller, sparser to the north, fewer thorn trees, more kinds of cacti appear, and the willow-~~leaf~~ leaved shrub. Very hot! In shade at noon 35°C , and the road too rough to go fast enough to create a breeze. at 5 p.m., cloudy, 34° ; and at 6 p.m. 32° after thunder & lightning in the hills nearby and a trace of rain here. ~~At~~ 8:30 p.m., 25° and clear. It's not altiplano, but Phyllanthus abundant!

Oct. 11

Camargo. Temp at 6 a.m., cloudy, 19° . 4 Phyllanthus ^{californicus} in traps. This valley has quite a few avocados & grapes, the latter trained either on cane from trellises or up into severely pruned Schinus trees. as you climb up out of the north end of the valley vegetation gets richer. Cactus, thorn, brush, willow, Schinus and lots of rocks at 10,000 ft; should be good trapping. ~~Then a stretch of~~ Not unlike about 6000 ft. ^{about 30 km} above Lima. Then a stretch of quercus-bocchoris, ~~to~~ richer, then rather bare stony altiplano. Stopped at 12,300 ft. ^{40 km by road} ~~about 30 km~~ short of Potosi. Here there are scattered bushes (many of them thorny), fuzzy cactus, and a little bit of bunch grass. This is about $\frac{1}{2}$ mi. by road south of the Tupiza-Camargo-Potosi fork. call 20 mi. S. Potosi.

Put out $\frac{1}{2}$ bag of traps along bushy stone walls, mostly after dark.

Oct. 12 Traps, despite being set after dark, did very well.
6 Andinomys, 1 Marmota, 1 Alouatta, and 13 Ph. darwini.
Andinomys has droppings more spherical than most
rats, and in sheltered crannies there may be a cup or more
of them. Guinea pig droppings here also, plus guinea
pig skull.

Drove to Potosí where everything was closed because
of fiesta. Ph. boliviensis near Potosí, ran across road.
Then drove towards Oruro and skinned. Stopped
after dark about 110 km. out of ~~Oruro~~ Potosí. Road
goes through much good altiplano including ichu,
Festuca, and tota. In some places equal amounts
of Festuca + Stipa. All day on the Potosí-Oruro road
and passed ² ~~one~~ vehicles.

Oct. 13TH Off at dawn to Oruro, then about 60 km more toward
La Paz. Rain at 5 pm just north of Oruro. About an hour
east of Challapata is a short-grass puna like
Pehu-Pichuni and with similar tree mounds (not much
fresh dirt) and pale, similar trees. These less shy. I walked
across one ~~set~~ mounded area and heard no bubbling.
Similar trees also a few miles north of Challapata.

Oct. 14 La Paz at noon. Hassle with aduana and hunt for skull belt.
aduana says no more

Oct. 15. aduana says "morning". Went to see another aduana, and he fixed
things up by 11:30. Spent a 10,000 boliviana fine for not reporting to the
aduana in Oruro, and the aduana at Desagadero was suspended
for 10 days for allowing me to enter Bolivia with faulty papers.
Off for Puno, but had to wait overnight for the San Pedro ferry.

P. PEARSON
1955

- Oct. 16 Copacabana - Yunguyo - Puno. The number of aduanas, traffic controls, guardia civiles, inmigraciones, vigilancias, etc. in both Bolivia + Peru absolutely unbelievable. Their biggest import must be steel chain to stretch across roads at control stations. Left at Puno gravel pit.
- Oct. 17 All day getting car greased, shodded, and reclaiming my deposit. Left 5 miles N. Puno.
- Oct. 18 ^{TUE} Lots of vicuñas at Itarayacu, but nowhere else. About same as when Carl was there. One band of 35. Young still in herds. Stopped for about 2 hours at our tiramón place, but saw + heard none. Left between Sotrivero - Salinas.
- Oct. 19 Temp. -11° at 5:30 a.m. One ~~back~~ brake frozen (from fording stream shortly before stopping). Removed wheel and built fire under it. Very rough road to Arequipa then, mirabil, paved to Canana. Passed through a couple of lomas - all "annual" flowers, no grass - but couldn't find a camping place with any vegetation. Stopped between Canana and Ataco. No traps.
- The mountains in my guanaco habitat photo on previous trip are Chachain (+ maybe Ampato), and the coastal valley photo is Rio Sibnas with Nevado Ampato.
- Oct. 20 Saw a fox crossing the road toward back yesterday in bare desert, and another today north of Ataco. At this place there is a cloud topped hill with bushy vegetation (and cactus) about a half mile in from the ocean. The fox went down a cliff to the rocky shore line and foraged along the shore, sometimes getting wet from the spray. Had practically no hair on tail.
- South of Ataco is a place with large fluted cactus, smaller cactus, flowers, and a few shrubs, plus lots of rocks. Looks

P. PEARSON
1955

good for Phyllotia.

North of Chala is some good foggy loma. Just after you emerge into the sunshine, ^{at} the north end of it, the vegetation stops. At this point a strong east wind was blowing. A few miles further on a strong west wind was blowing sand dunes across the road.

Put out $1\frac{1}{2}$ bags of traps on two hills of Tillandsia sticking out above almost pure desert. Some lichens around base of hills, then mostly Tillandsia although a few succulents, a few small cacti, and a few flowers. No definite signs of mice although a few burrows plugged with behen* near the base of one of the hills. F of tracks. Snail shells. No birds seen. These hills are at km. 499 and 501 S of Lima.

* The behen tend to collect in depressions, hence not/plugged. Also, they are probably diggings by fox after arthropods. Found one fox dropping with only arthropods.

Oct. 21 Morning foggy. Traps untouched. This stop 12 km. by road S of the Marcona crossroad. Loma vegetation stopped a few miles N of the crossroad and the sun came out slow. Stopped at beach north of Chircha for cormorant + pelican skeletons, then north to our old camp 10 mi. N Cañete, mostly little vegetation here. A few Tillandsia (90% ^{of them} dead), a few hair-rot cactus, and lichens. Put out $1\frac{1}{2}$ bags of traps. Found Ph. amicus skeleton on top of knoll.

Oct 22 Nothing in traps. F of tracks. Drove to Lima, then set a bag of traps at 1 mi. W Surco (Dodge place) and some ⁵ rat traps + 5 mouse speckles at 1 mi. E. San Bartolomé (Zúñiga rd (Roc)).

P. PEARSON
1955

Slept at Chosica.

Oct. 23 Traps at 1 mi. W Surco had 1 mouse, 3 Ph. andersoni, 6 Ph. amicus,
and 1 Zungia rat. ^{Oryzomys} Many sprung empty, probably by Zungia rats.

at 1 mi. E San Bartolomé, the 5 rat traps baited with bacon
held 4 Zungia rats, 1 not sprung. Two of the rats badly eaten.
The 5 mouse traps baited with corn meal were all sprung
& empty. This place must be alive with Zungia rats.

Skimming and big packing spree, then back to Chosica.

Oscolla is about a mile or so below San Bartolomé.

Oct. 25 "How high can mining go?" by H. B. Cooke, Jr. in
Mining World [World Mining Section] 44-48, 71. August 1954
tells of a sulfur mine in Chile (Aucanquilcha) 5 mi. S of
the Bolivian border and 16 mi W of Ollagüe, Chile. "The mine
workings... reach about 20,200 feet in altitude."

"Minimum Temperature... at Aucanquilcha, minus 35°F. The
maximum recorded at Aucanquilcha since 1913 is 36°F."

"Yaruta" & its caloric value is 6,300 British Thermal
Units per pound - half that of bituminous coal."

In Table No. 1 lists 50 mines ^{16000ft or} above and 5, all in Chile,
~~at~~ 19,000ft or higher. Lista Tutupaca as no 8. at 18,400;
11 mines 18000ft or higher

at Aucanquilcha, "... the mine camp, which is 17,500 ^{ft} ^{high}, must be
near man's living ceiling. Formerly the camp was a thousand feet
higher, but the miners could not sleep with their heads and feet
so it was moved down to its present site. There the miners may
play football after climbing on foot to the mine, holding seven
hours, and mining down the mountain."

Oct. 26 Left with Kofphee by train for San Bartolomé, thence Zarate. We all packed out about an hour short of Zarate, so left packs and went on to set traps and get water. Put out about 40 traps, mostly along the trail under rocks in the forest. Saw a weasel carrying a mouse, in a rock slide. Dura Kofphee shot it twice with 22 shot but didn't stop it.

Oct. 27 Zarate. Traps held 1 Phyllotis andinum and 2 Akodon. The forest is open enough in places so that there is dried grass (Akodon) and brush (Phyllotis). The forest is on a steep south-facing slope and contains trees ~~up~~ more than 2 feet DBH. Most conspicuous are a big-leaved tree reminiscent of sycamore with bigger leaves and with green 45 cobber fruits ripening and a smaller tree with shape and foliage of live oak and bark of madrone. About 3 other species of trees also. The woods are very dry now, but in the thicker parts there is heavy ~~moss~~ ^{+ branches} covering the trunks, hanging lichen, and branchhods. Many of the trees are topped by dried vines (but not lianas). In the thicker part of the woods are many big overhanging rocks. Stone walls have been built up under them and along side, forming caves for burial. Some of these have dozens of ^{human} skeletons in them plus dozens of goats. Trees > 1 foot DBH have grown up since the walls were made. The floor of the forest is open, leafy, with mulch. The Kofphee say that after the rains the floor is a mass of green + flowers and many of the tree crowns are invisible because of ~~the~~ vines.

Put out traps among the grave walls in forest behind (above) the camping place and also along the brushy bottom of

CARSON

1955



Dra. Koipeke at Zaraté, Dept. of Lima

P. PEARSON
1955



Dr. Krefekel in the forest of Zaraté

D. P. PEARSON
1955



Dr. and Dr. Kuepfer in the forest at Zante



P. PEARSON
1955



San Bartolomé from the trail to Zárata



Dr. and Dra. Koefcher at Zárata

A. P. PEARSON
1955

a cliff above the trail between the forest and the spring to the west of the forest $25 \pm$ traps altogether. commenced hunt

Oct. 28 Two Phyllotis andini in the bushy line and 6 in the forest line. also 1 at the weasel place. 1 Abodon in the forest line.

Put out a line of traps in bushy place near upper edge of forest, the bushes in clumps 6-12 ft tall, and another line in the gloomiest part of the forest. Dr. Koepcke incapacitated all day by severe rheumatism. One bat flying ^{early} at dusk and another under the trees after dark.

Oct. 29 Nothing caught in the gloomy part of the forest; one micoryzomys in the bushy line. Hunted birds with Mrs. Koepcke. Bird fauna is a curious combination of althlana, bush, + forest species. Mothoprocta pentlandi, Cuculides, parrots, wild pigeon, Heliohera + Zaratornis, Syrnialopis, Troglodytes, 8³ kinds of hummingbirds, etc. Saw condors twice. The Zaratornis are ~~tree~~ ~~top~~ ~~top~~ feeders + perchers. Sang kek-kek-kek-kek-kek getting more rapid at end. Not repeated.

Oct. 30 Dr. Koepcke in bed all day. Put out $25 \pm$ traps in woods behind camp. One Phyllotis andini in traps. The woods specimens look darker than the two from the bush west of the forest. Hunted birds to the spring east of forest and back, then off to San Bartolomé. 10 hours down, Dr. Koepcke proceeding with caution and with great pain.

We collected at Zárate 4 Zaratornis and estimate that the total population of the forest was 15 individuals, all females. It is unlikely that the males live or visit at Zárate.

1955

The mammal fauna is poor. Mustela frenata seen, Phyllotis andium?; Abodon boliviensis?; + Microsazomys? caught, probably skunk tracks seen and bats flying. Some large rodent droppings seen near the bottom of a cliff and in a boulder slide may be visacha (Kopcke has seen and collected visacha in the Santa Eulalia valley as low as 2200 m). A few more species surely live there, but the ^{mammal} fauna is not a forest fauna. [Marmosa almost certainly here].

The forest has not been found by the forest species
 Nov. 2 Lima. The Oregon geologist at the pension (Bernstein) says that a consulting geologist Willard C. Lacy from Univ of Arizona has studied the Carhuamayo - Cerro muna mounds and published a semi-popular article on them in "El Serrano" about Sept-Oct. 1952.

1- G01 25 1

